THE AMERICAN TITANS

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From the author:

This book is a speculative look at ancient history. This text serves as a reimagining of what happened in the past. I have tried to connect the dots of history, in a way that may explain what happened long ago. By connecting some dots in the past in a different way, and by using some of the latest in scientific discovery and research, the picture of the past looks very different from what we were told.

This work may explain some of the inconsistencies in the historical record, and fill in some of the gaps in the story of our existence on this planet. This work will, no doubt, be met with some ridicule by those not willing to accept any adjustments to their worldview. The many mysteries in history that leave professionals (in various fields) scratching their heads, thinking "How did they do that?", may be explained by some of the theories that I put forth in the chapters that follow. I've done my best to combine modern science, including some recent peer-reviewed releases, with mythology, documented history, and antediluvian mystery, to weave together a plausible explanation.

I am not a professional scientist. I am not a credentialed historian. I do not have a long string of academic acronyms before, or after, my name. I have decided to publish this book as *speculative history*; this may put those who are more rigid or dogmatic in both their thinking and their worldview at ease. However, I'm fairly confident that some of these theories may be true. I'm optimistic that any consideration of these theories may lead to further study in certain areas. The net result would be a win for humanity by establishing a ground truth that fills in the gaps between myth and reality, history and mystery.

While this book is a "speculative history", I've included a bibliography at the end of the book. I've certainly made some assumptions of my own to explain gaps in history and bridge the gaps that exist in the record. But I've also drawn for others. Men greater than myself who have pioneered in different fields, taken the arrows from the academic society and the scientific community. They are the ones who have illuminated the dots that I am merely trying to connect. I leave it to the reader to decide what they find plausible and what to consider impossible. I didn't do all the research myself. I didn't dig through the geologic stratum with a trowel. I didn't find and painstakingly translate the ancient texts, nor did I spend countless hours staring through a telescope or a microscope to collect the data. I am telling a story, which is a reimagining of history viewed through a new lens. A lens ground by countless hours of others' labor. While I am telling a story that I believe is plausible, this story would not be possible if it weren't for the work done by others. I am standing on the shoulders of giants and describing a different horizon of the past.

Acknowledgements

I would like to thank Ben Davidson (suspicious0bservers.org), David Talbott & Wallace Thornhill, Jim Vieira & Hugh Newman, Randall Carlson, John Edward Ruth, Ed Cochrane, and, of course, Graham Hancock. Their work has been provocative and motivational. Many of these men have been taking the brunt of scorn from mainstream academia for years. Their unrelenting pursuit of truth is truly inspirational.

Of course, my family has been especially understanding and supportive of this undertaking. I've seen this kind of *blanket statement* in many, many books before, but I've never understood the true weight of its accuracy. My wife and my children have been supportive and understanding throughout the entirety of this process. I can't thank or fully appreciate them enough.

All illustrations, maps, diagrams, and clip-art-style works were drawn by the author, unless otherwise noted. Cover art front and back was created using Davinci AI and Grok X AI. The math was compiled by Grok via X AI. Don't ask me to explain the math in greater detail; I can't.

Forward

The peopling of North America has been a much-debated topic for a long time. The Clovis First crowd had dominated the discussion for most of the debate. The Solutrean Hypothesis group had a really good run. The Native Americans themselves, when asked about it, claim that the land bridge over the Bering Strait has been a two-way street for, well, forever. DNA results have really put a dampener on the Solutrean Hypothesis. Mounting evidence has nearly broken the will of the Clovis First group. However, the Clovis theory is not without its merits. It may just need to be rebranded. I suggest "Clovis? Yes, but not only." I don't believe that we should discount the Native American account of the two-way street. We don't exactly know how long that two-way street was open for travel. For the purposes of this book, I am starting this text at the 36,000 years ago mark. This text will start with a series of events in a meteorological set-up, then it progresses through an incredible history of a people you probably didn't know existed. I will use examples of various other historical events, as a way to show historical precedent. Get comfortable and enjoy.

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Euhemerism noun (yü-ˈhē-mə-ˌri-zəm)

Euhemerism: interpretation of myths as traditional accounts of historical persons and events

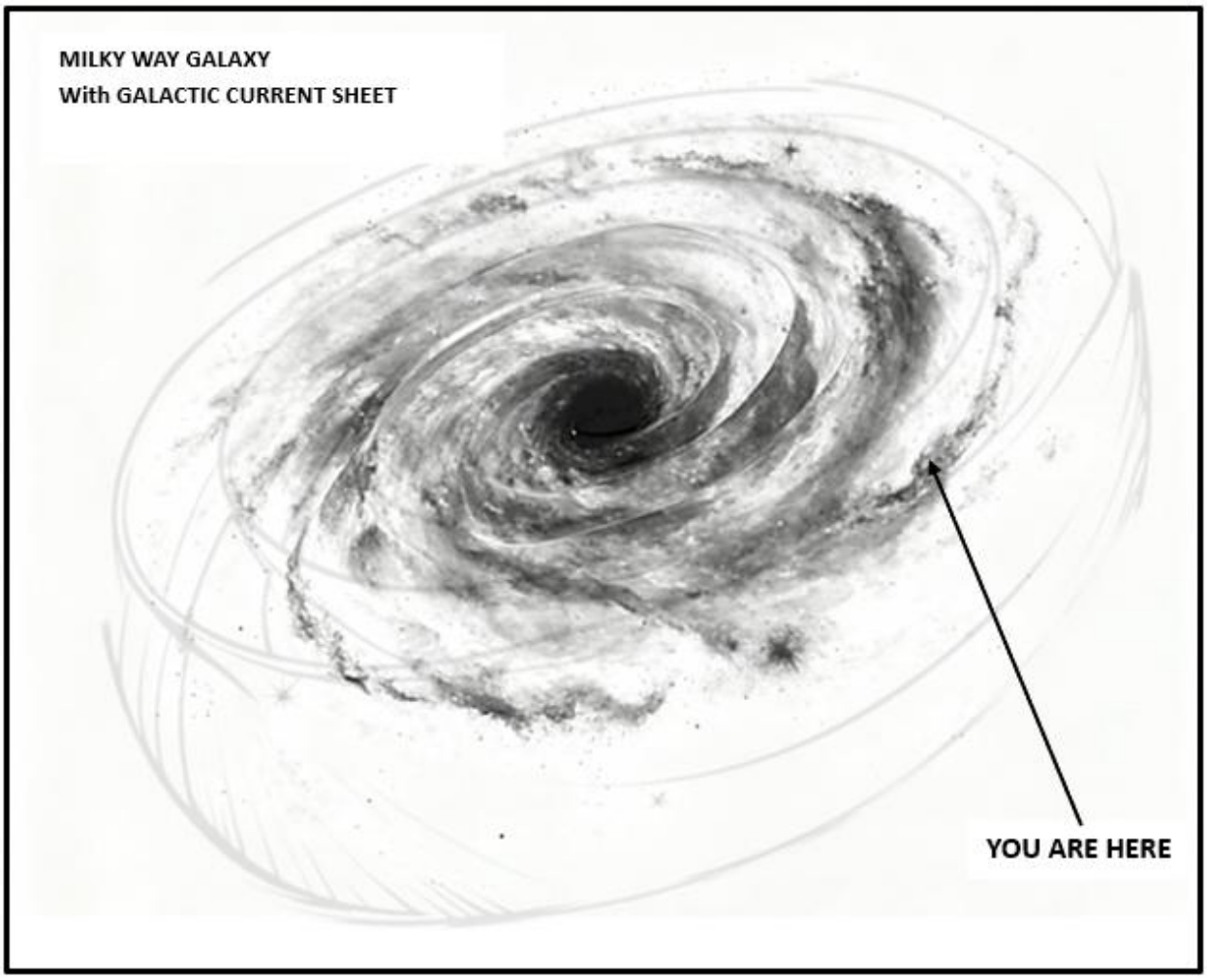
Euhemerism is interpreting myths as traditional accounts of historical figures and events. It is named after Euhemerus, a Greek writer who lived around 300 BCE. He proposed that certain gods were originally great people who were worshipped because of their contributions to humankind. Euhemerus's most famous work was *Hiera Anagraphe* (The Sacred Inscription), written in the early 3rd century BC. In this work, Euhemerus travels to an island called Panchea and discovers an inscription in a temple to Zeus. The inscription explains that Zeus and his ancestors were mortal humans who were worshiped for their accomplishments.

euhemerist noun (yü-ˈhē-mə-rist)

euhemeristic adjective (yü-ˌhē-mə-ˈri-stik)

Setting the stage

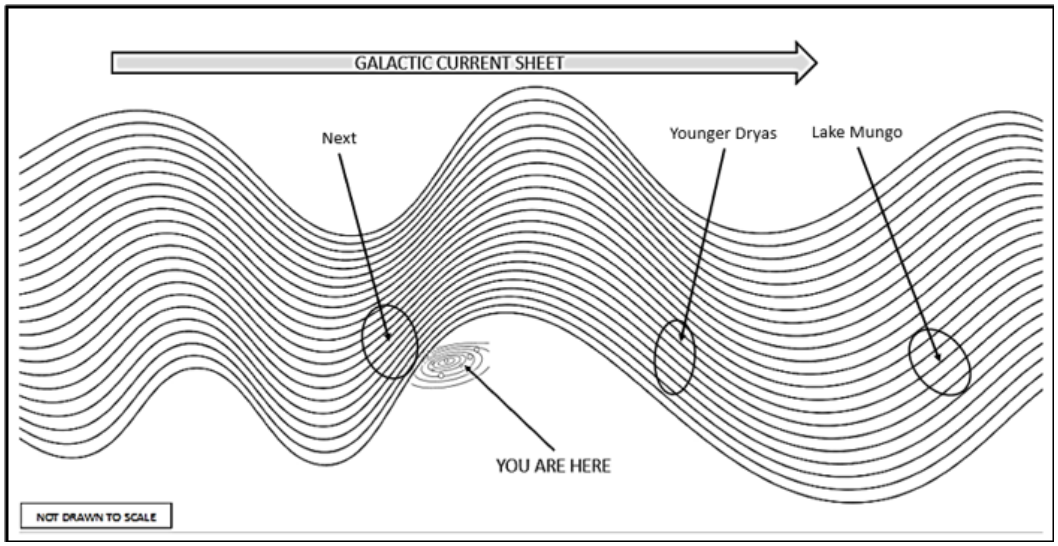
36,000 years ago, the world suffered a dramatic pole shift. This is known to scientists today as the Mono Lake event. The Galactic Current sheet, which originates from the Milky Way center, ripples out in a spinning spiral fashion. The Current sheet is magnetic in nature. It is caused by a scientifically proven, natural effect we call the Parker instability. The shape of this current sheet when it hits and flows over our entire solar system is like that of a sine wave. On one side of the sine wave is positive magnetic effect, while on the other side is the opposing negative magnetic force. This wave or current sheet carries with it not just magnetic polarization, but it tends to scoop up and drag along with it, cosmic dust and debris. This cosmic dust has a magnetic charge itself. Like a static cling duster or mop head, the dust and debris are caught up, bunched together, and carried forward with the wave.



This space dust is dragged over everything the current sheet passes. This includes stars like our sun. When a big ball of fire, like our sun, gets a lot of excess material dumped on it, it reacts as any fire would. It dims at the initial onset of the material being introduced, but then, soon burns through the material, and in a rapid fashion. It's similar to dumping an armload of dry leaves or pine needles on a campfire. The initial effect is a smothering of the fire. The temperature drops, and the luminance or light is dimmed. But these effects are temporary and fleeting, for soon the coals of that campfire revolt, and cause a rapid flaring and flash of light and heat as the excess material is burned off, in rather short order. This is a flash of light, heat, smoke, and sparks. Luckily, this effect is fleeting too. As the excess material is burned off, the sun or fire then resumes its normal activity and temperatures.

This event, of a star burning excess material off, could be considered a solar flare. The name aptly describes the event. But the name of "Solar Flare" is already reserved and used for more routine solar behavior. Thus, the title of "Micro-Nova" is given to this cyclical star flare-up.

The solar micro-nova happens every 12,000 years or so and has been verified by multiple scientific fields, namely geology. These events have been officially named, going back twice as long as this story's timeline. At least 48,000 years. You may be familiar with the theory of the Younger Dryas, or at least have heard the name. The Younger Dryas event of 12,000 years ago is sometimes also known as the Gothenburg event in geologic circles.



The names for these events derive from a geographical location where the first or best scientific proof of said event is located or obtained. While the geographic location of evidence is specific to a spot on the map, the event itself, is experienced worldwide, and not isolated to the specific location of its namesake.

The Gothenburg event (Younger Dryas) occurred 12,000 years ago. The Lake Mungo event was 24,000 years ago. The Mono Lake event was 36,000 years ago and the first Laschamp event was, as you may guess, 48,000 years ago. This micro-nova chronology is rather predictable and obviously cyclical, with an event happening every 12,000 years like clockwork.

The Galactic Current sheet is what drives the micro-nova and pole reversal on our planet. The pole reversal in and of itself is not all that impactful to humans in our current state. As a species, we do not currently seem all that dependent on our perception of the magnetic field. However, other species, both plant and animal, are more directly impacted by this shift. Many species of flora and fauna are much more in tune with and potentially dependent on their magnetic sense. A major shift in the magnetic field will cause temporary chaos for a wide variety of species. This chaos can result in directional confusion and navigational error, migratory problems, and disrupt breeding cycles, pollination, and other necessary life cycle events. This will at least partially disrupt the food chain and the ecosystem as a whole. As the magnetic fields are used by plants and animals alike.

But wait, there's more. Not only are the world's ecosystems experiencing some technical glitches with at least half of its species, plants, and animals. The temporary dimming of the sun and the following micro-nova cause more problems. Temperatures in the Paleolithic era were already about 10-15 degrees cooler than today's average. Three days or so of a dimming sun would have resulted in plunging temperatures worldwide. The solar micro-nova's flare-like ejections would have collided with an already stretched-thin magnetosphere around our planet. As the normal or healthy magnetosphere protects the planet from the daily onslaught of otherwise damaging effects of the sun's activity. With the pole flip in full motion, the magnetosphere is suddenly disorganized and stretched thin. The magnetosphere simply cannot provide us with its daily protection, not in this weakened state. The excess electron and proton bombardment of our atmosphere would dramatically charge up storms. Creating storm-like conditions in some places and intensifying storms that already existed in others. Not only are weather patterns changing but the volume and intensity is being turned up. Geo-physically things are changing too. The atmospheric and magnetic precursors for seismic activity would be on overdrive, resulting in an uptick in earthquake activity. Volcanoes that have been dormant for centuries are waking up. The increase in volcanic activity is generating tons of additional debris in the atmosphere, further darkening our skies. The lightning would dramatically increase worldwide as the "Global Electric Circuit" is pushed into overdrive. There's simply more charge in our atmosphere than normal. This is climate change on steroids.

And then it gets worse. The sun's micro-nova releases, among other things, every spectrum of radiation. This radiation spreads out in the solar system in every direction. It courses through Earth's entire structure with ease. If one can imagine a giant piece of X-ray film on the backside

of the planet, the resulting radiation blast would provide a beautiful X-ray picture of the planet. The radiation coursing through the planet does something terrible to the connection between the Earth's crust and the mantle. The crust is locked in place with the mantle by a plasma lock mechanism that is negated by the suddenly increased burst of radiation. The effect is that the crust unlocks from the mantle and goes into free spin mode. The Earth's core is continuing to spin, as it normally does, but the crust is now slipping and sliding, as a whole, in between the outermost edge of the mantle and under the thin layers of the atmosphere. The core of our planet is not a smooth central ball. It is an antisymmetric blob that pushes out and fills in the gaps, holes, and irregularities in the lower mantle. This effectively locks the core and the mantle together. The continuing spin of the core and mantle creates a centrifugal force that naturally pulls the heaviest parts of the crust to the widest part of the spin. This is not unlike a tetherball getting pushed out to the widest part of its arc when more force is applied. The heaviest parts of the crust are the frozen poles. Thus, the old poles get pulled towards the equatorial center of the Earth's rotation. After this happens, and the radiation blast has passed, the connection between the mantle and the crust reforms. The crust is again coupled together with the mantle. Now, a new crustal orientation is locked in.

The shifting of the crust over the mantle is not a greasy, smooth slide. Along with earthquakes felt at the surface, the mantle is forced to shift as well. Its positional fitting with the outer core is stressed. The mantel cannot shift as much as the crust as its fittings with the core are much larger and more prominent than those between the crust and the mantle. The mantle has oceans of water and magma-filled plumes, along with vast deposits of oil and methane. The shifting of material is not as dramatic in the mantle as it is on the crust, but it proceeds nonetheless. This mantle shifting can cause land-rise at the surface. It can also cause landfall at the surface. Certain areas may lose altitude, while others are heaved up. This will result in the heaving and fracturing of some rock layers or strata, and it can change the courses of rivers. Drop the elevation of some hills, elevate the plains and basins, and lift hills into mountain ranges. It can sink or create islands. It generates significant changes to the map.

Even more bad news. The surge of electricity and solar particle energy creates an electrical atmosphere. This overcharged atmosphere creates incredible lightning storms. Lightning so intense that it's potentially lethal. The solar forces that course against the planet, also push against the magnetosphere (or Van Allen belts). The resulting compression of the Van Allen belts towards the surface produces a dramatic surge of mega-lightning. This is called the Arc Discharge, and it has canyon-carving possibilities. Any living organism unlucky enough to get caught in an area near one of these is almost certainly dead.

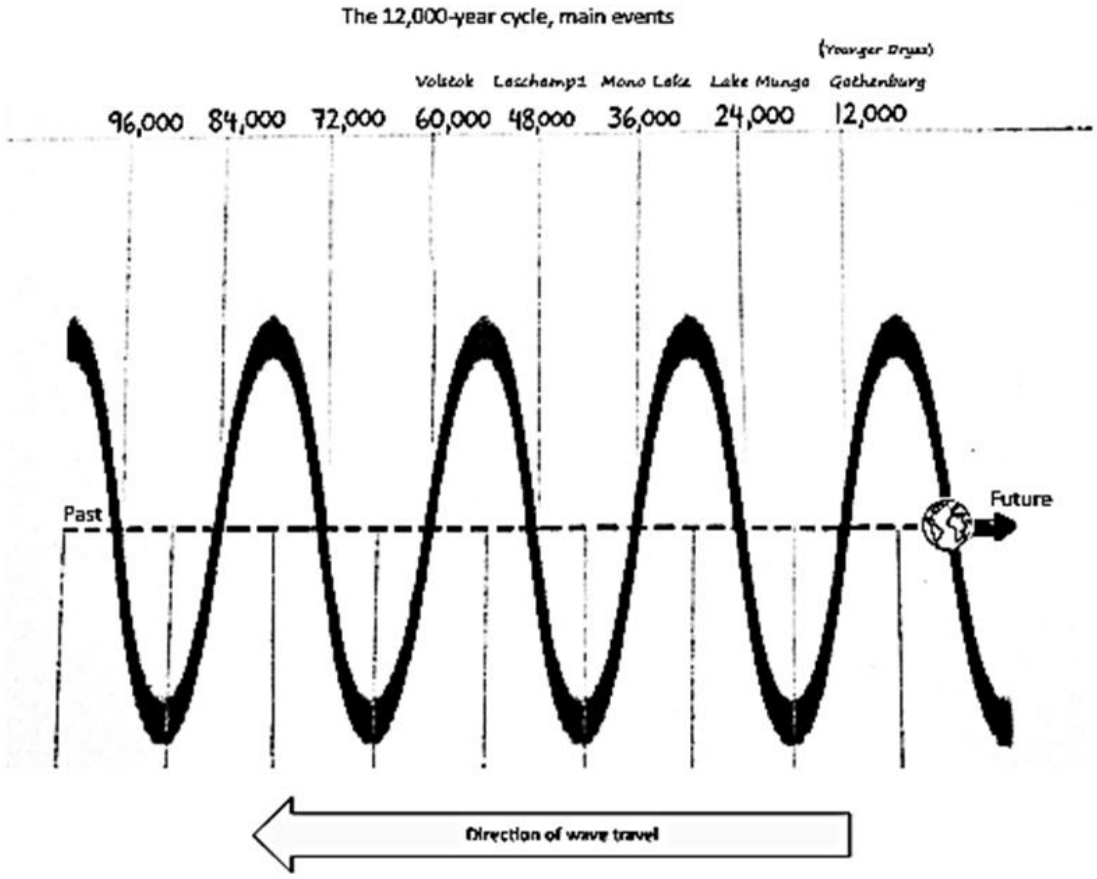
It's not over yet. The slippage of the crust does not happen without consequence. It's more than just the "stars swaying drunkenly in the night sky". The slippage creates more havoc than just

having the sun rise and set on different horizons, the rise and fall of mountains and savannahs, or the exposure and fracturing of rock. Most of the planet's surface is covered by water. This water will shift and slosh with the crustal movement. The oceans all over the world will start to rise like a relentless tide in one direction. This tide will climb a foot or more every minute on one side of every continent. It's an unstoppable, steady tsunami. The other side of every continent will see the water recede and rip away like the oceans are being drained. The water will simply pull back rapidly, leaving fish flapping in the mud for as far as you can see to the horizon. The rising current on one side absolutely inundates everything on its march inland. Once the crust stops and starts to lock in place, the water that flowed inland starts to recede back out towards its basin of origin. The water pulling back to the seas acts as a scrubbing motion to rip debris back out with it. Meanwhile, the side that experienced the waters pulling away and leaving the shorelines high and dry is in for a nasty surprise. The slosh-back wave effect is heading their way. The waters of the seas, lakes, and oceans that got pulled away in one direction are now rushing back in the opposite direction. This slosh-back wave is faster and more violent than the gentle rising tide that flooded the other side. The slosh-back wave has speed, velocity, and apparent vengeance. The slosh-back wave has devastating, map-changing potential. After the slosh-back wave reaches its zenith of inland flow, it too recedes, pulling tons of debris back to the basins from which it came. The backflow of that much water and debris will scar the landscape with significant erosion. Then, after just a few days of really bad and unpredictable tides near the shorelines. The coasts start to settle down. The sloshing will cease, and a new oceanic current drive settles-in with a new perspective oceanic current. The new position of the moon with its gravitational influence eases the oceans back into a more rhythmic cycle. Tides resume with lunar regularity. And the land begins to dry out.

With the post-pole-position glaciers sitting at the equator, the snow and ice begin to melt. But the world is still technically in an Ice Age, with global temperatures being 10-15 degrees cooler than the global averages are now. The new poles, both north and south, are building their new ice caps faster than the old poles can shed their ice. The plant and animal life on the North American continent are positioned in such a way as to flourish. Making their recovery from the Mono Lake event of 36,000 years ago all that much easier.

As previously stated, paleo-climatologists state that the global temperature was about 10 degrees cooler than the average today, and it was considered an Ice Age. But 10 degrees does not make the entire globe an ice cube. This cooler overall global temperature extends the ice caps a bit further from the poles. It also likely extends their height in elevation. One may assume that the poles, no matter where they were geographically located, were bigger, in just about every way. It lowers the oceans and the seas' levels by a couple hundred feet. Land bridges that have been proposed for this earlier version of Earth's crust are a reality. The map of land masses on Earth was similar and recognizable to what we see today, but still different due to the lower water levels.

Vast amounts of water are locked up in the old glaciers, and even more is being locked up, fast, by the new growing polar ice caps. There is still a lot of sediment in the atmosphere. The volcanoes have not all stopped their expulsion of gas and soot. The skies are constantly grey and overcast, which, while blocking some of the sun's direct warmth, also creates a bit of a greenhouse effect. The greenhouse effect is a constant temperature regulator. It doesn't let temperatures swing as wildly as a cycle of day/night/day, with either direct input or absolute absence from the sun. The greenhouse effect traps warmth in the atmosphere and essentially stabilizes the weather, within a range, as continuous melt is allowed to happen in the mid to equatorial latitudes. This continues for as long as the sky is dirty. So, for 10 years to (maybe a 100 years) the land bridges between continents are broad and wide. But over time, the water slowly starts creeping up the beaches. The new poles stabilize, and the old poles continue to melt. The effect is a shrinkage of land bridges and the eventual isolation of some islands, animals, and cultures. Though not all of the land bridges would have disappeared during this thawing out. The poles are still bigger and broader than they are today, and the global average temp is still 10 degrees cooler.



Half Cycle Event

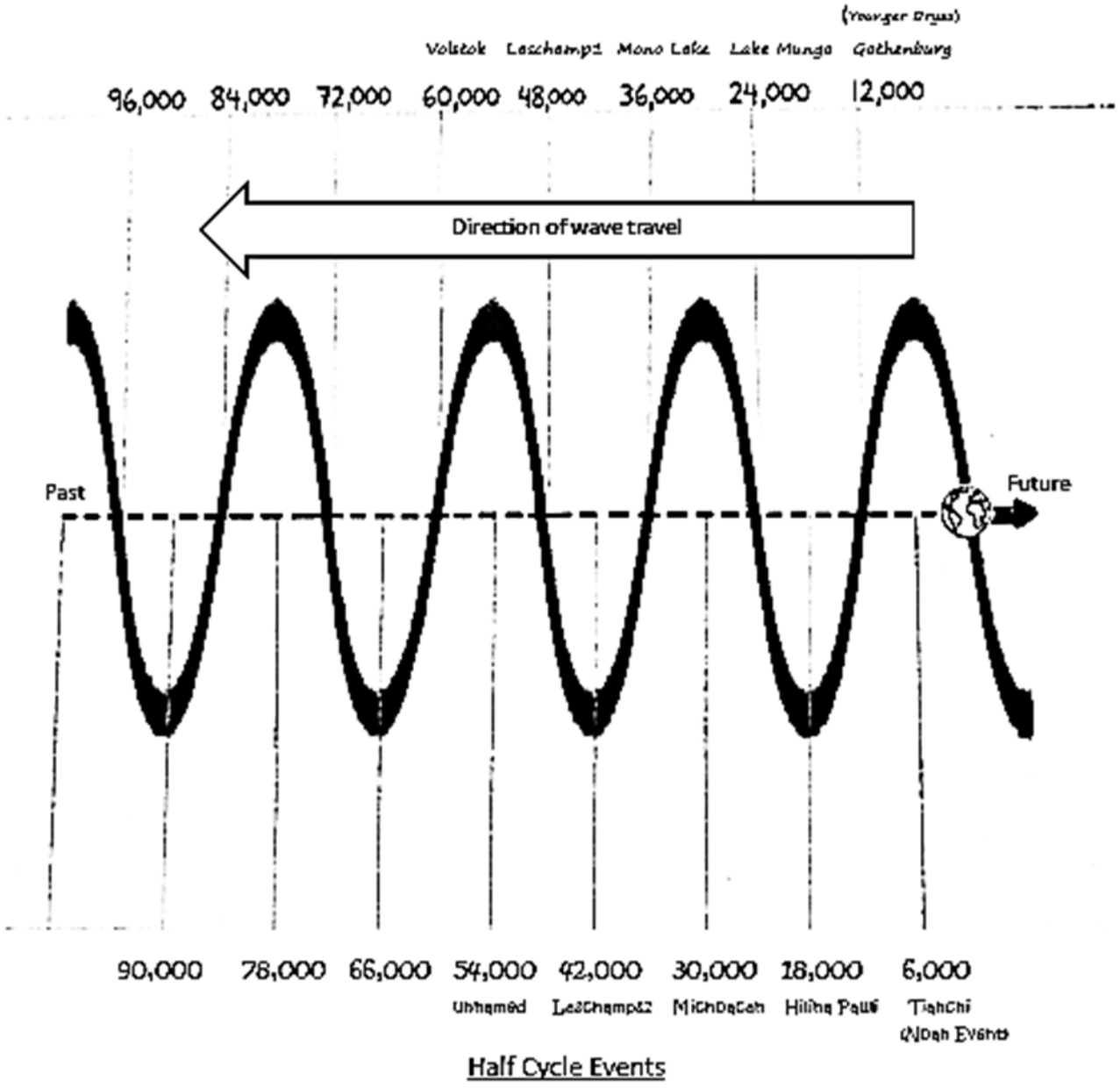
There is an epoch of relative stability and growth that is enjoyed for roughly 6000 years. Then something changes. What is now called the Heinrich cycle or the "Half-Cycle Event" takes place. As the Galactic Current sheet marches on, it continues its rotational spin and wave-like expansion. Our solar system approaches the mid-point in the sine-wave-shaped current sheet. A magnetic directional pull from the departing side of the wave gives way to the approaching side of the wave. This magnetic performance is not like the last one. The magnetic poles of Earth are not forced into a total pole flip, as the magnetic declination remains the same. The sun does not have cosmic debris dumped on its fiery surface. There is no solar blast. However, after we pass the midpoint, the magnetosphere weakens temporarily. The magnetic poles reorient slightly in the direction of the oncoming wave face.

The temporary weakening of the magnetosphere has consequences. A weakened magnetosphere allows more solar forcing of the climate in our atmosphere. There are rapid temperature swings over a period of time. The monsoon season of any area will be amplified. Extreme weather events will become more common. This magnetosphere unrest will also trigger increased volcanic activity. The solar-influenced atmospheric conditions also provide an increase in what we now call earthquake precursors. The global electric circuit is temporarily disturbed in such a way, as to influence, and increase in earthquakes.

It may seem counterintuitive, but the freshwater pro-glacial lakes on the larger ice sheets of the day would have been much larger than any modern-day examples. During the late Paleolithic period, global temperatures were still about 10 degrees cooler than we are used to today. This equates to larger ice sheets at the polar regions. It also means that there were larger lakes of meltwater on top of those ice sheets. As the earthquakes hit with greater ferocity and frequency during the half-cycle event, the larger ice sheets break up at their edges. The ice dams that hold back proglacial lakes fail and huge amounts of meltwater can flood entire regions. The introduction of cold fresh water to otherwise warmer ocean waters only add to the climate chaos already occurring. The massive size of the ice sheet break-offs, on the edges, would create massive floods and tsunamis. These tsunamis would not have been continent-flooding events like the 12,000-year crustal slip event floods, but they would be big enough to flood entire regions, giving birth to new and entirely separate flood myths.

Each tsunami, regardless of whether it's a 12,000-year or 6,000-year variety, has both an inflow and an outflow. The initial surge of raging waters inland from the coast inundates everything and deposits vast amounts of silt and debris. The outflow of waters running off, back to the basin from which it came. It scours the landscape and carves new canyons and run-off features. The land experiences extreme erosion. Each flood is double trouble.

These events have been studied, well documented, and they are named too. 6000 years ago, we had the Noah Event (also known in academic circles as the Tianchi Event), the Hilina Pauli Event of 18,000 years ago, the 30K event of 30,000 years ago and the Laschamps 2 event of 42,000 years ago.



Half Cycle Events

Lake Mungo Event

36,000 years ago, after the Mono Lake Event, the world looked much as it does today. The Arctic Ocean is centered on the North Pole. The continent of Antarctica is centered on the South Pole, respectively. The atmospheric winds were consistent, the climate was stable, and life was flourishing. The American mega fauna are flourishing

30,000 years ago, the world suffered another episode of the Heinrich cycle or half-cycle event. This events' effects can be found in the geological record. It does not appear that North America suffered too bad of a disaster from this particular event. Perhaps the ice dams over the Canadian archipelago didn't fail. Whatever coastal flooding happened didn't surge too far inland. The bulk of the Mega Fauna and Mega Flora on the North American continent did not suffer any sort of near-extinction-level event. They, in fact, thrived and grew large.

24,000 years ago, the Lake Mungo event happened. The storm starts as before. As the galactic current sheet approaches, the magnetosphere starts to weaken as the magnetic poles start to move towards each other for their eventual flip. The increased weather intensity begins to be noticeable. Wet seasons are wetter than normal; rains start in normally dry places. Aurora Borealis or northern lights start appearing at southern latitudes and with greater frequency. Active storm seasons go quiet, while periods of what should be calm start having out-of-season storms. The animals that rely on the magnetosphere for navigation get lost, marine mammals beach themselves unwittingly. Sea turtles get lost. The salmon can't find their way back upriver with as great of accuracy. Certain plants or crops start to fail as the earth's magnetic properties are vital to their pollination cycles. Then the earthquakes start. They are small at first but grow in frequency as the atmosphere starts changing and the solar protons start penetrating deeper. This change takes place over many years.

Then the sun starts to dim. The Galactic current sheet is, once again, starting to dump excess material, which it picked up from space, on the Sun. The temperatures on Earth start to drop even further. The weather turns wicked. After 3 days of a darkening sun, the sky lights up. The solar micro-nova has burst forth. The luminosity or light gets here first. Then the radiation pulses through. The X-rays and the gamma rays. Then a blast of heat from congealed plasma, still hot from the sun's corona-sphere, splashes down in the ocean, vaporizing millions of gallons of water in an instant. The effect pumps massive amounts of water vapor into the atmosphere. The crust-mantle zone starts to unlock as the radiation pulses all the way through the planet. The magnetic poles have already flipped and are invisibly reorganizing their interconnected grid well above the surface of Earth. But inside the magnetosphere, all hell is breaking loose. The ice-laden heavy geographic poles start to slide out to the widest part of Earth's rotational arc.

A great amount of lightning is occurring with increased frequency all over the planet. An Arc Discharge happens on the sun-facing side of the planet. As electrical energy passes through the planet like a capacitor. There's an epidemic of lightning strikes of epic proportions.

In North America, the Atlantic Ocean has started to intrude on the entire East Coast. The Gulf of America has begun flooding up the central and eastern parts of Texas. The entire southeast is being covered by the warm waters of the Caribbean and the waters from the central Atlantic. The Pacific Coast is seeing the water rip northwards in a fast, unfamiliar current, then recede to, seemingly nowhere. The San Francisco Bay is a deep, muddy hole. On the East Coast the waters flow up and over the Appalachian Mountains and flow down the Ohio River Valley. The Atlantic Ocean meets the waters of the Gulf of America; they combine together to surge up the northern section of the Mississippi River. The Great Plains see ocean water for the first time in thousands of years. Anybody on high ground is seeing the sun or the stars move erratically and change their positions in the sky. Then the water stops. It pauses, then almost immediately starts to drain back to whence it came. As it begins its return, it starts gathering speed. Anything caught up in its currents, is in for a long ride back to the ocean. Then the unthinkable happens. Some of the mountains themselves start to sink. It's not just the weight of the oceans on the land; it's the shifting of the mantle under the crust. Entire mountain ranges on the east coast of North America start to drop. In just a matter of days, the mountains drop 200-300 meters. This causes rivers to change course. Old rocky outcroppings crumble, and new ones protrude out of the earth.

Meanwhile, the west coast of North America has a beach with no ocean. Then the sound starts. A low rumble that builds into a growing rush. The winds suddenly change, and the on-shore breeze is picking up speed. The ground starts to rumble, and you can see what looks like something different on the horizon. The sound grows and so does the rumbling of the ground. The horizon itself seems to be growing higher and closer. Then closer still. The Pacific Ocean is coming at the coast fast, and it's picking up speed. On North America's west coast, the Pacific is approaching from the Northwest, and it's going to rip down the coast in a southern fashion. The winds tear up any loose structure or debris before the water hits. When the water hits, it has enough force to change various aspects of the map. The coastal ranges get squeezed together and get a little higher. Everything along the coast from British Columbia to Baja gets absolutely wrecked. The waters rush over the flat lands of Washington and Oregon into southern Idaho; they butt up against the Rockies and turn south into Utah. The Great Salt Lake is recharged and filled to capacity, along with much of the Great Basin. California's large central valley is filled like a great inland sea. The waters smash up against the high Sierras but don't pass completely over them. The slosh-back wave has forced the tectonic plates into motion. It's not the slow grind for centuries as normal, it's a sudden jerk, it's a rapid forced movement. The Coastal Ranges are pushed up higher. The Sierras are being pushed upwards by the buckling of plates underneath them. Several hundred feet of altitude is gained by the Cascades and the Sierras. West Coast

geysers go into overdrive. Old volcanoes that refused to wake up, are now stirring. A few new volcanic hotspots appear along the west coast. Some will sputter out quickly, while others make a bid for being a new prominent feature on the map. As fast as it came, it was over. The waters don't all recede quite as fast as the Atlantic and Gulf of America did. The waters in the Great Basin have nowhere to go, and they are trapped in the basin itself. The waters in the California central valley do recede, but only very slowly, as the only exit for the water is a narrow channel in the San Francisco Bay. This was the Lake Mungo event.

After the Lake Mungo Event 24,000 years ago, the geographical poles are now near the Himalayas at the top of the world, with the exact North Pole being near the tip of India in the Indian Ocean. The new South Pole is near the Andes, just off the coast of modern-day Ecuador and upper Peru. The entire Amazon basin is rapidly being completely covered in snow and ice. Likewise, the Indian subcontinent is freezing over quickly, along with much of what we now call Southeast Asia. The Bay of Bengal will soon be completely covered by very thick ice.

While the whole world suffers these events together and at the same time, I'm inclined to focus on the North American continent at the moment, as it's central to our story. North America is now in a unique position of having the Arctic Ocean at the equator while the continent stretches down towards the South Pole. The narrow passage of land that is Panama is basically the gateway to the pole. All beyond Panama is probably ice.

The equator on North America's side of the planet runs through northern Greenland across the Arctic Ocean and finally crosses the top of Alaska near the Bering Strait, which happens to be a completely intact land bridge. The land bridge between Alaska and Russia is so large that it gets its own name, Beringia. The Arctic Ocean is a mostly self-contained circular sea. The main outlet being the Barents Sea, which now leads east, towards Europe. The Arctic Ocean is still frozen and will take a long time to thaw out. The melting ice keeps the water cold while the air at the equator is warm. As the ice melts, the land is revealed. Vast plains and rich soils, mixed with large ice sheets and glaciers, are present in northern Canada. The sea levels are still very much lower than they are today, and the Canadian Arctic Archipelago is nearly completely connected and above water. As the ice recedes, the richness of the equatorial plain is prime real estate for animals and men alike. The highest mountains of Alaska and Greenland continue to melt, but after thousands of years, they never completely lose their glaciers. The Canadian Arctic Archipelagos however, is a mix of hills and valleys with some silt-filled plains that sit at lower elevations, and it is virgin territory. The area is quick to lose its ice at the equatorial position, despite the world being about 10 degrees cooler. Even today, with its geographical position being at the Arctic circle it loses much of its ice in the summer months.

Climate and Fauna

Certain regions didn't suffer as much change as others. Central Africa remains at a more central and equatorial position, despite the sun and moon changing where they rose and set. The warmer conditions allowed for excellent growth for some of the animals there. Elephants, rhinoceros, hippopotamus, giraffe, gorillas, and big cats all grew, or at least maintained their large, healthy size. Not everything grew to large sizes; some animals maintained their more diminutive size.

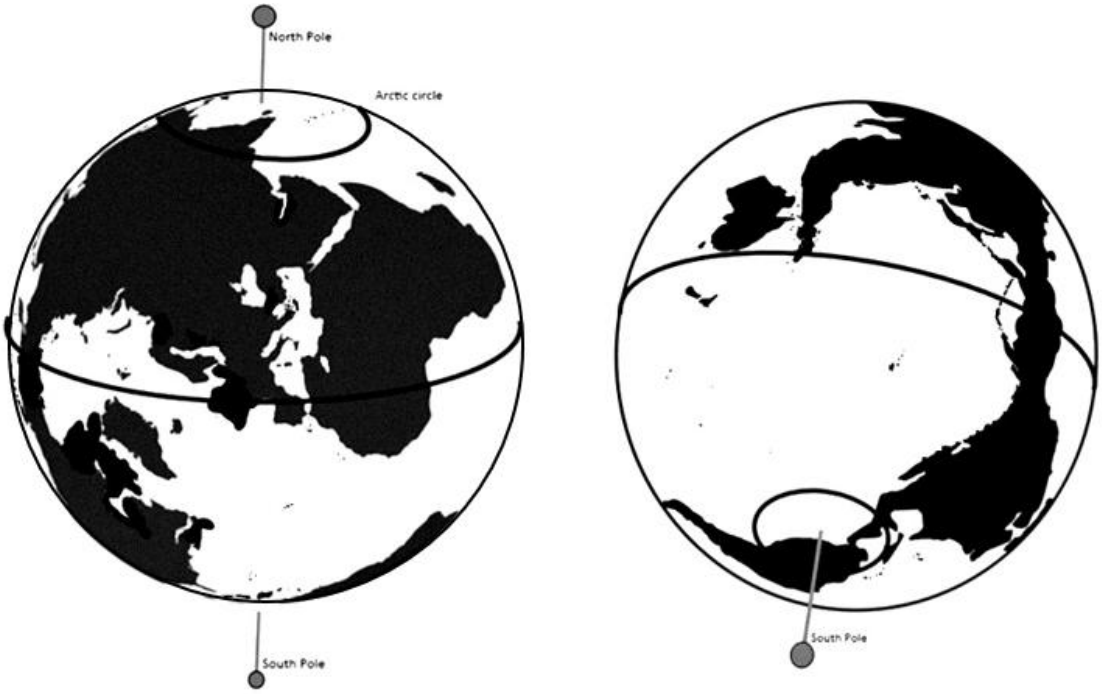
In North America, conditions were also relatively good. North America rotates back and forth in these 12,000-year cycles to roughly the same latitudes on either side of the equator. The cycle shifts them to the north or to the south side of the equator. Yet the central portion of the continent maintains a modest distance from the poles. The animals have to adapt to the slight variations, but it's generally not too rough for the survivors of the storm to survive, adapt and grow. This makes North America an excellent place to evolve. It's not as consistent, as much of Africa, but not as rough as the rest of the world.

The flora and the fauna of North America seem to be growing to giant proportions. Herds of mammoths (*Mammuthus columbi*) and mastodons (*Mammut americanum*) roam the great plains and forests on the north American continent. These large elephant-like beasts are not alone, the giant cave bear (*Actrodus simus*), the dire wolf (*Canis dirus*) and the giant ground sloth family (*pilosa*). The largest of the giant ground sloth family was Laurillards ground sloth (*Eremotherium lauillardi*) which was as tall as a modern-day giraffe and weighed as much as an elephant. The better-known Jefferson ground sloth (*Megalonyx jeffersonii*) weighted in at nearly 3000 lbs. These giant animals were accompanied by the Giant Armadillo (*Holmesina*) and its even bigger cousin the Simpson Glyptodont (*Glyptotherium*), the Stag-Moose (*Ceralces*), and the American Camel (*Camelops hesternus*). Horses have migrated north from the central American jungles and evolved into larger beasts that are better suited for the vast savannahs of the American plains. They would grow to resemble what we recognize as Horses (*Equus*) today. The Horses would have run alongside different varieties of Pronghorn Antelopes roamed the plains and basins, like the Shulers Pronghorn (*Tetrameryx shuleri*) and the more diminutive Pronghorn (*Capromeryx furcifer*). The Helmeted Musk Ox (*Bootherium bombifrons*) and the Harringtons Mountain Goat (*Oreamnos harringtoni*) were common on the continent. Big cats are present in North America just as they are in Africa. The American Lion (*Panethera leo atrox*), the American Cheetah (*miracinonyx trumani*), the Scimitar cat (*Homotherium serum*), the Saber-Toothed tiger (*Smilodon fatalis*) and, of course, the Mountain lion (*Puma concolor*) all roamed North America.

There are many other species that lived in North America that are not listed here. I'm only offering a few examples paleolithic animal life in North America to show how prevalent large fauna were on the continent at the time. Not every species grew to gigantic proportions; many critters remained small or at sizes that we may recognize today. For example, out of the 4 or 5 different species of Pronghorns that used to roam our plains, only one still exists today, the Pronghorn Antelope you may know (*Antilocarpa americana*).

It is interesting to note that the modern-day Pronghorn antelope still maintains its ability to run 60 miles per hour. No predator on the continent today can run at that pace, but the Pronghorn was adapted to run away from the now extinct American Cheetah. It had to be able to reach those speeds to survive. Despite the cheetahs being extinct for 12,000 years, the Pronghorn still maintains that ability.

A great many species grew to sizes that may be hard to fathom, especially with our current understanding of the animal kingdom. It stands to reason that at least some early human species enjoyed that same growth spurt. As previously stated, North America is well positioned on either side of the equator on both sides of the solar storm cycle. Regardless of whether we are placed in the southern hemisphere or the northern hemisphere, the center of the continent ends up being between 30 and 45 degrees off the equator. While parts of Africa maintain an equatorial latitude the entire time, North America is switching from north to south and back again, over and over again. It's a repeating, cyclical pattern. This millennia-scaled change is enough to make adaptation necessary, but not enough to make it unbearable.


North Pole
Arctic circle
South Pole
South Pole

Meet the Titans

This cycle has existed for billions of years. The solar system has been subject to the Galactic Current Sheet since its inception. Plate tectonics and continental drift have been present and constant longer than life itself has existed on the planet. But the continuous march of plate tectonics is relatively slow over the march of time and doesn't really factor into the workings of this story. The Pleistocene era is 3.3 million years long. And certainly, human evolution has crept along steadily during this entire Era. But it appears the late Paleolithic period of 50,000 years ago until the start of the Neolithic period, coincidentally 12,000 years ago, is the period where human growth in North America really took off. The human evolution and growth on the North American continent had, at least, 40,000 years and fortuitous geographic placement after several Galactic Current Sheet hits, magnetic pole shifts and solar micro-novas. The people (and animals) on North America got lucky time after time for at least 40,000 years. This luck culminates in advancements, not just in physical growth, but also in society building, early technologies, pottery, megalithic architecture, advanced tool building, cosmology, textiles, and language arts. These advancements don't pop up overnight, but rather it's painfully slow. It may take decades or even centuries for a new idea to really take root in these Paleolithic Americans. But they've had at least 40,000 years of meteorological and metabolic good fortune to build their civilization.

Just as Animals in certain regions had an opportunity to grow very large, it should not be out of the question for a form of humans to share in this growth spurt. We know from the teeth of the Denisovans that they were very tall and large versions of humans. That doesn't make them human, just human-like. Perhaps they were cousins to our species Homosapien. As they had different characteristics, they should probably be considered a different species. They may have been a different subspecies at the least.

Two different yet similar species can exist at the same time. Wooly Mammoths existed at the same time as African elephants. One still exists today, while one has gone completely extinct. Cro-Magnon people existed at the same time as Neanderthal people. Neanderthal people existed at the same time as Homo-Sapiens. The Denisovan cave people with oversized features and anatomy, and hides covered in thick hair, existed at the same time as Homo-Sapiens. Homo-Sapiens existed in the late Paleolithic period just as another, apparently very tall people, existed. Two different yet similar species often exist at the same time.

Likewise, it's possible for two distinctly different cultures to exist at the same time. Even today, there are pockets of hunter-gather societies that exist at the same time as modern, post-industrial revolution societies. There exist today entire tribal networks of hunter-gatherers in remote pockets of the world that live their lives without any outside influence. They live their daily lives without any modern influence, just as their ancestors did. These tribes can be found in the Brazilian rainforests, the Papua New Guinea forests, or on the islands off the coast of India in the

Indian Ocean. It is preposterous to assume that just because *we* didn't have any advancements in the late Paleolithic period that is therefore impossible for anyone else to have made any progress before us.

It seems taboo to talk about giants, especially in a more serious or scientific manner. That taboo has led to the entire topic being considered a literal pariah in any otherwise serious conversation. Anyone whom discuss this concept or dares bring up the idea is met with ridicule and utter disregard. The conversation dies. The net result is a confirmation bias and virtual blackout of belief. The very mention of giants is met with scorn and callosity. Anything else that is brought up or said by the one who risks using the word "giant", is brushed aside and immediately overlooked. As if the one who blasphemously says "giants" can no longer be taken seriously. The mention of giants is an academic killer. So, it seems that no serious academic or scientific work is allowed to take place in regards to, an apparently very large, very tall, historical, distant cousin of humanity. Anyone who dares to pursue this line of study is called a pseudoscientist, a fringe nutcase, or a crackpot, despite the mountain of evidence that has built up.

The evidence that supports the existence of very tall humans or giants, in the past, is actually quite extensive and wide-ranging. Giants are mentioned in the bible. Giants are part of several Native American stories. Giants are remembered everywhere from Indonesia to the Mediterranean. Giants are remembered from northern Europe to South Africa. Physical evidence of the Giants has been discovered everywhere, from a Denisovan cave in central Russia to Ohio River Valley burial mounds.

The purpose of this text is not to prove the existence of giants in days past. This story is going to take the liberty of assuming they did exist. I intend to make the case that they were not isolated pockets of very tall freaks, located in remote pockets of geography and history. I propose that they were an organized society and culture that spread out across the world and reigned supreme for thousands of years, only to be all but wiped out by a natural disaster. The isolated pockets of survivors, that are common in stories from around the world, in myth and legends of today, are the stories of what was left, of a once great tribe. The large size and immense stature of these peoples is not up for debate. It's their accomplishments, their organization, the range of their travels, and their possible technologies that I aim to discuss. However, they need a name, a title. In an effort to stop beating around the bush, I shall bestow a name for these people. The name has to be representative of not only their robust stature but also their seemingly epic accomplishments. The title has to have a basis in the historical record from whence they came. I shall call them the American Titans.

Magnetic Biology

The Cyclical disaster that occurs every 12,000 years has many attributes other than just the fire and ice, the floods and earthquakes. It has a great effect on Earths Magnetosphere. Subsequently, changes in the magnetosphere create changes in solar particle penetration from the sun. As modern Humans we don't necessarily "feel" the hypo-magnetic effects. But many other species do.

Changes in the magnetic field around our planet can affect the brain. Recent scientific studies have detailed many anomalous effects of a changing magnetosphere on the neurochemistry of mammals. The magnetic sense in pigeons was recently outlined in a Nature article. The birds feel the magnetosphere through a series of tubes near or in their inner ear. Like the Vestibular system that we humans rely on for balance. The pigeons have a similar vestibular system that is sensitive for sensing the magnetic forces of earth. Three tubes filled with a magneto-responsive fluid give the bird an X, Y, Z relationship that can be felt by their brains. The birds do not see the magnetism of earth, they feel it, just as we can feel our position of balance. It is said that the ancient aborigines of Australia could "see or feel" the magnetic forces of earth and that they used this heightened sense to navigate their travel vast distances across the outback. It has been suggested that Indo-Pacific peoples used a stronger connection to the magnetosphere to navigate small ships across vast distances in the South Pacific. Some have pontificated that the Nazca people of southern Peru may have used an extra-sensory perception, like this, to construct the immense Nazca lines. It should therefore not be out of the question to propose that other people in history could have had this minor adaptation. Such a sense would greatly add to the navigational abilities of an antediluvian culture.

Recent studies have shown that changes in the magnetosphere can affect the sleep cycles and dreams that occur while sleeping. The brain appears to be more sensitive to electromagnetic perturbations while the body is asleep. This isn't to suggest that changes in the magnetosphere, nor the sun, give us some sort of message or visions. But the changes in the magnetic environment can influence how dreams are interpreted, remembered or how they unfold by indirectly affecting the background in which they occur. The magneto reception ability, possibly by way of biogenic magnetite along with the body's natural bio-field, couples with the changing magnetosphere. This makes the resting brain more intune or sensitive with the magnetic environment. The more sensitive brain produces slightly altered neurochemistry. Thus, new neurological pathways start to develop in new and interesting ways. The new or increased intensity of dreams, or the symbolic interpretation of them, may be a large-scale cultural phenomenon, shared by many in a tribal setting. This could definitely lead to creativity or focus on new ideas. The changes in neurochemistry due to magnetospheric changes is a relatively new field of study.

As a changing magnetosphere causes changes in one's neurochemistry, our brains detect these subtle changes in the magnetosphere and respond by altering our individual neurochemistry in slight ways. As individuals experience subtle changes in neurochemistry, they may begin to act differently. In the animal kingdom, you see behavioral patterns that seem odd or out of the ordinary. Example: a deer eating a snake, wolverines working as a pack, as opposed to solitary individuals, to chase or hunt a larger predator like a bear. Migratory patterns of animals will certainly be thrown off by the changes in the magnetosphere, but their decision-making process may be altered as well. Each individual may experience a different change than the individual next to them. Some may act a little more irrationally. Some may find themselves feeling more spiritual in nature. Some may become more creative. It has even been recently proposed that changes in the magnetosphere can affect your dreams and your connection to your subconscious. This collective experience of change may vary from individual brain to individual brain, but it is felt across the broad spectrum of the species. There may be a separation of like minds from others. A neurologically driven tribal divide. On the negative side of this can be a "clown world" effect where logic and reason are out the window. But a positive effect can happen too. An increased awareness, spiritual consolidation and greater perspective or confidence can be shared amongst groups of people. This creates an awakening movement. A boom in technology and creative thought can be experienced by a species going through a change in the planet's magnetosphere. Behavioral patterns can change. Perhaps it may be broken down to something as simple as: some start making better decisions, while others start amplifying or doubling down on bad decisions. Entire groups of people may collectively start forgetting things that were common knowledge to all just a short time ago. With these magnetically influenced changes in neurochemistry and the adaptive neuropathic responses, advances in technology and capabilities become either more frequent or get lost to time. New ground is discovered; new records can be set. Some of the species are propelled forward. Some may be left behind, stuck in the old ways, confused, lost in a brain fog or driven to a weird level of irrational madness.

A hypo-magnetic environment (that is, an environment with a less strong magnetic field) can create numerous adverse health issues. The better recorded effects of a changing magnetosphere are the direct effect on the organs of the body. With increased exposure to solar activity and hypo-magnetic environments comes an increase in heart attacks, cardiovascular disease, aneurysms, strokes, and many others. Scientist that are looking at the long-term effects of living in a hypo-magnetic environment in regards to long-term space travel. The astronauts may face significant challenges, both physically and cognitively, while spending long terms in space away from the Earths' magnetosphere. Cognitive performance can be affected by hypo-magnetic environments. This could definitely affect an astronaut's ability preform complicated tasks while spending long periods of time outside earths magnetosphere. One's memory may also be affected by prolonged exposure to a hypo-magnetic environment. You can think of it like having

collective amnesia, or you may like to equate it to having parts of a VHS tape erased by a powerful magnet, essentially a, hyper-magnetic environment erasing data (although technically that would be the opposite, it's just an analogy).

I would suggest that the American Titans experienced some of these changes in the years leading up to the Lake Mungo event, 24,000 years ago. With the benefit of locational mineral properties, the American Titans, as a culture, could have grown, not just in size, but in shared consciousness and intellect. The proposed home base for the American Titans is in the Iron-ore rich mountains just southwest of modern-day St. Lewis, Missouri. This region has unusually rich outcroppings of magnetite and even some neodymium, along with bountiful copper veins exposed as outcroppings too. This creates a unique sort of Magnetic-Micro-Climate. Like a local bubble of a micro-magnetospheric protection. This microsphere could not even begin to compete with the size and strength of earth's magnetosphere, but apparently, it's better than nothing. While the rest of the world gets lost in the brain fog of a hypo-magnetic environment, the Titans, unwittingly, enjoy a little bubble of magnetic protection. They could have been better prepared for natural disasters, more rational in their possible contingencies. An awakening movement amongst the antediluvian Titan tribes could have propelled them forward in civil structure and constructs. Thus, as they come out of the storm, that we are calling the lake Mungo Event, they were already ahead of the game in regards to every other species on the planet. The Titans minimized the negative effects of the cyclical hypo-magnetic happening. I believe they may have escaped the worst of the negative effects, specifically during the Lake Mungo Event of 24,000 years ago. The resultant increased awareness of self and creativity, coupled with a stable environment in an advantageous geographical position, gave the American Titans every opportunity to flourish. And flourish they did, but first a history lesson.

Vikings and Cowboys

This chapter may seem like a bit of a divergence, but stay with me. I intend to give a couple of examples of what can and did happen in the more recent past. This serves as a sort of historical precedent. I'm using North America as my exemplar template. These historical illustrations, of both success and of failure, demonstrate what may happen to an expeditionary force when it gets far from home.

Let's briefly talk about the Vikings and cowboys. The Vikings pressed westward across the North Atlantic. They expanded rapidly from their home base in Scandinavia to England, then to Ireland, then to Iceland, then to the southern side of Greenland, and eventually to the eastern coast of North America. There is some suggestion of their travels across the northern side of Canada all the way towards Alaska. Even wilder suggestions are that they have succeeded in having at least one ship traveling all the way down the Pacific coast to the warmer waters of the Gulf of California. Allegedly, a farmer used the planks from the ancient stranded Viking longship to build fences for his pig pens.

The Vikings were not wayward dreamers. They did not simply chase the sun towards the imaginary end of the horizon. They were shrewd and practical warriors, businessmen, traders, and navigators. The Vikings were tracking and hunting the North Atlantic Walrus. The Walrus provided not just food, but also oil for lamps, much like getting oil from Whales. But most importantly was the Ivory from the North Atlantic Walrus. The demand for Ivory was increasing in Europe. The primary source for ivory was from Asia. The Silk Road and spice trade routes where long and slow. The Vikings were able to gather large amounts of ivory from the North Atlantic Walrus and deliver it to the European market at a much faster rate than the long Silk Road could provide. Thus, the European Ivory market is dominated by the Scandinavians for a couple hundred years. The Viking success in the European trade market drove them further and further from their home while they chased the North Atlantic Walrus populations. This multi-generational hunt leads the Vikings past known shorelines, past Iceland, and to Greenland. Greenland's many Fjords and deep-water harbors were an excellent place to set up a permanent hunting camp. Camps turn into settlements meant to persist for generations. The base camp on Greenland that is used while the walruses are hunted down in every fjord or pocketed cove, soon becomes a launching point for following the shrinking walrus herds further westward. The Vikings continued to pursue the walruses to North America and set up a new camp on Newfoundland. The site is called L'Anse aux Meadows. The temporary hunting camp becomes more valuable as it has a minerals-rich marsh nearby. The marsh provides the mineral materials necessary for the production of metal nails. The ample supply of lumber and newly forged nails makes it a forward operating base that can provide shelter, ship repair, and serve as a communication point for spreading information between different hunting parties, perhaps even instructions on where to

focus their efforts. The sites in Greenland did not have the ample natural resources that the location of L'Anse would have had. The site at L'Anse Aux Meadows shows evidence of three different generations of building construction, meaning it was occupied and being used for over a hundred years. A major logistical hub, like L'Anse, would naturally have satellite camps that spread out from it. The whole operation is akin to firebases spread out from a Forward Operating Base or FOB. It's a simple, organized structure much like militaries use today.

This Ivory enterprise of the Vikings was eventually cut short by the native population of the North American Arctic, possibly in spectacular fashion. The Vikings had hunted the North Atlantic Walrus population to near extinction. This is very much like the hunting of the North American buffalo in the 1800's. The Native Populations of the Arctic regions depended on the Walrus populations for their sustenance.

In 1911, Fridtjof Nansen discussed claims that Inuit people attacked a Viking settlement. Presumably, this action was taken by the Inuit to stem the eradication and pending extinction of the North Atlantic walrus. It seems the relentless and organized hunting of the walrus, no doubt driven by the Viking success in the European markets, could no longer be tolerated by the natives. It was suggested by later reports that in the 14th century, that a local tribe or tribes organized an amphibious raid, by kayak, on a western settlement on Greenland. In the report, the raid was successful with the near complete destruction of a Viking settlement. It has since been suggested that the leadership from that village was beheaded by the raiders, with their heads placed on stakes, as a message. The newly constructed Christian church was burned to the ground, and the entire settlement was razed. However, this may be an over-dramatization. There is no accompanying legend passed down from the Inuit.

There is a report that was written in the late 16th century that claimed that an attack took place in which the Inuit killed 18 Vikings from Greenland in 1379. This is also very unlike other reports, made by the Norse, about the local population. It should also be noted that the report was made years after the event had come to pass. The verity and accuracy of these attack claims may never be fully known. Certainly, there was some conflict between the larger, more technologically advanced Norsemen and the local Inuit tribes.

This mystery of conflict between the local natives and the expanding European settlements has another, better-known, American historical precedent. The American Indian tribes, especially the ones around the Great Plains (like the Sioux, the Crow, and the Blackfeet) and tribes in the American southwest (like the Comanche, the Apache, or the Kiowa), are well known for their conflicts with the ever-expanding American presence in the New World. Bands of Braves raided remote settlements and wagon trains. The Union Army has many famous battles and raids against the Indians. Manifest Destiny had a price, and the price was paid in blood.

The stories of these conflicts are well documented, repeated, and often romanticized. They are burned into our collective national memory. But I feel as though they may not be fully understood. The leadership of the local Indian tribes was, for the most part, honorable, smart, and wise men. They made a deal with the American government and the Union Army officers, and they intended to keep their word. Likewise, the Colonels, Generals, and Indian Department officials who made deals with the Local tribal Chiefs were, for the most part, honorable, educated, and smart men also. However, there were factors that they could not control. While the Chief of a tribe makes a deal with a Union officer, there would be bands of young men, or braves, that were not part of that circle. They were raised in a society that doesn't necessarily have "laws" or strict agreements or legislature. They are like a wild child, free spirits, or young rambunctious rebels in some respects. They would be akin to gang bangers on the frontier. In a tribal society that heaps praise on bravery or "counting coup," and isn't all that favorable to the white man pushing into their long-held territory. It's only natural that small bands of young men would lash out against the settlers, despite whatever deal the old men came up with. The Native American Indian tribes were not unfamiliar with war, unlike the Eskimos or Inuit tribes up north. The native tribes of the Americas had been warring with and fighting against each other for centuries. Conflict was not a foreign concept to them. Bravery and glory in these conflicts was celebrated and culturally expected by the men in these tribes. Now "handshake deals" and agreements between the elders, was asking them to "obey" laws and be a peaceful neighbor to the new white-faced strangers, that they didn't invite. Many young braves could not totally accept the new rules that the white man was pressing upon them. It is antithetical to the culture they were brought up in. Young braves would, of course, break the laws, take advantage of soft targets, poorly defended, remote, and isolated settlements. They could steal the livestock, loot the imported goods, capture or rape the newcomers, and express their bravery in the killing the men who attempted to defend. These are the habits that were previously celebrated by their culture, and for hundreds, if not thousands of years. This places the Chiefs of these tribes in very difficult positions. Are they to give up their wayward sons in an attempt to appease the Union officers? Can a Chief represent his people, while surrendering the future generations of his tribe to an invading power, for crimes that the majority of his people don't even acknowledge as criminal?

On the Great Plains, the vast herds of buffalo were the primary source of sustenance for the locals. When the incentivized buffalo hunters started culling entire herds, to send their bounty back to the markets on the East Coast. The Indians felt the pinch. Just like the Inuit seeing the loss of the once great walrus herds at the hands of the Vikings, the Indians of the plains saw the buffalo herds disappearing. In both cases, the locals are obligated to respond. The Inuit didn't know how to fight. The Indians did.

The Union Officers are obligated to respond to the inevitable conflict between the Indians and the settlers. There is even some reasonable evidence that suggests this was, at times, done on

purpose. The Union Army officers and Department of Indian Affairs officials knew this pattern of behavior would continue. It appears that, from time to time, it was expected. Government officials essentially used the settlers as bait while relying on the Indians to react predictably. In this way, the American presence was pushed further west. The price of Manifest Destiny was paid in full, by both sides.

The American push to the west was able to succeed because of the support from their home base on the East Coast continued. Logistical support did not collapse due to it getting stretched thin, nor due to political favor dropping out. The main financial burden of the expansion was supported by the settlers themselves. They paid their own way. The settlers were incentivized by the lure of free or cheap land. The very concepts of total freedom and self-reliance appealed to the new American ideals of liberty, self-governance, and freedom. The government itself had only to support the Army and its attempts at defending the settlers. The logistics of the settler's expansion was, almost completely, self-reliant. The net result was a win-win for the growth of the new American nation and its government. It was a definitive loss for the native tribes in the region.

Similar drama; different result. With the Viking expansion up north, the Inuit were not a violent or warring people like the Native tribes on the mainland. The Vikings were. The Vikings were a forceful and heavy-handed force with experience in raiding and warfare. The local tribes of Inuit were a more peaceful and possibly even passive group of local hunters and fishermen. The Inuit used harpoons made of carved bone. They had small knives made of chipped stone. They used kayaks and umiaks made of seal skins stretched over bone and wood frames. The Vikings had steel. Vikings had larger sailing ships, swords, spears, and shields. The Vikings could adorn themselves in armor and steel helmets. While the Inuit used bones and stones attached to sticks, the Vikings had well-made axes. And perhaps more importantly, the Vikings were familiar with war. The Vikings had a long history of raiding, conflict, and military battles. The Inuit did not.

The Vikings were also just a larger breed of human. The Vikings sent a number of reports back to their kings in Scandinavia. In those reports, they reported that the Inuit were smaller in stature. They called them Pigmei (pygmies), Heathen-Trolls, Undergrown-people, and Fairies. The most common name was Skraelings, which means fairies. It was reported that they were only one cubit in height or three "spans" high. The Skraelings were only reported in small bands and not in large numbers. The Inuit would travel in order to hunt or fish, and the hunting parties were never too big. This was just the basic structure that the Inuit have always had. The only reports of larger numbers of Skraelings, or potential danger from hostile natives, came from the mainland natives near L'Anse, on the Vineland mainland. These were still called Skraelings out of habit, but once a source refers to them as *Americaea Populi* (the peoples of America), we can assume that these were mainland Indians and not Eskimos or Inuit.

Most of the conflict would have been very one-sided, with the Vikings being the easy victors, and therefore, would hardly be worth reporting. A Viking victory, in a skirmish against locals, isn't something to write home about; it's just Tuesday. A Viking defeat at the hands of a weaker opponent is just embarrassing. So why were these reports of Inuit victories made? And why were they not made until years after the event was over? The answer is in the breakdown of the support structure of the Vikings themselves.

Several factors led to the demise of the westward-expanding Vikings. And most, if not all of them, are because of what happened at home. One of the contributing factors was the Norman conquest of England. With the Norman conquest complete, England had its own support now coming from mainland Europe. This means that England is not such an easy target for the Vikings to raid anymore. The black death had swept through Europe, including the Norwegian countries. By 1349, it was reported that Norway had lost half its population to the plague. Such a devastating loss would certainly slow down the care packages. Christianity had spread through the Viking communities by way of King Olaf. The catholic church had explicitly forbidden the Vikings from inter-breeding with the Skraelings. Finally, the *Kalmar Union* between Sweden, Denmark, and Norway unified the Scandinavian countries under an increasingly bureaucratic leadership. The resupply and communication boat to Greenland and beyond was called "Knarren". Knarren were the only recognized and legitimate ships authorized by the Scandinavian government to travel to Greenland, allegedly this was for tax purposes. The Knarren was not sent that frequently, with years in between trips. Not every time the Knarren was sent, did it make it. It is suspected that a few of the Knarren sank while in-route. The Knarren was sent less and less frequently as the years passed. It is reported that by the year 1410, the Knarren stopped altogether. Any remaining Greenlanders were completely cut off.

The reports of conflict, or of the struggles, of the Greenland Vikings, that trickled back to the home base of Scandinavia may have been exaggerated. The political climate was not favorable to the outposts. With the Ivory starting to become scarce, the revenue stream started to dry up. Meanwhile, the rulers of the Scandinavian homeland had become entrenched with European aristocracies. The financial capital that the Vikings had built up was running thin. The Vikings had used the Ivory trade to buy a seat at the big table, but now they were running out of chips. The Black Death had taken its toll on all of Europe, Scandinavia included. It would have been expensive to rebuild the homelands after the plague. It would have been expensive to keep up with the Europeans and the European market. And it would have been resource-intensive and financially expensive to support such an ambitiously expanded empire.

The Viking outposts had stretched out further, to the west, than any of the Europeans had even dreamed of going yet. The Scandinavian writers of these reports may have exaggerated the reports in an attempt to garner more support from the kings. By appealing to the emotions and

Viking pride of the kingdom, the writers may have been trying to influence the growing bureaucracy to send more logistical support to the outposts. It appears that the tactic of imaginative literary license didn't work.

The supply train had been broken. The resource-rich routes that sustained the westward expansion had been hunted dry. The catholic church had forbidden them from marrying or breeding with the Skraelings. Communications and resupply had slowed and eventually stopped altogether. The Viking pursuit of walrus ivory was crushed; the westward settlements were cut off and isolated. Remaining settlements either blended into the local population against the will of the church, were destroyed by the Inuit, or they simply faded away and died. The westward expansion of the Vikings was over. The villages had recessed into quiet farming settlements and eventually faded into history and/or were abandoned. One can only assume that the more distant bases and hunting camps like L'Anse and its satellites were either abandoned, attacked or assimilated in a similar fashion. Without the logistical support required to sustain themselves They could not continue and were lost to history until their discovery in 1968. While there is an unconfirmed dramatic tale of a tragic end associated with the Vikings in the new world, they may, in fact, have gone out with more of a whimper than a bang.

I tell the tragic story of Viking expansion to serve as an example of how we may imagine Paleolithic American expansion could have evolved. The American Titans evolved as a society and subsequently expanded their range in multiple directions. The Titans' expansion was supported by a strong home base. I will attempt to lay out evidence of this culture and its adventures. Much of this expansion could only be accomplished by boat. It appears that American expansion largely occurred during the late Paleolithic period between 24,000 years ago and 12,000 years ago. Like the Vikings, the American Titans came to a tragic end. This tragedy plays out at the end of the Paleolithic and the start of the Neolithic age of man.

Stone Skin Giants

The idea of giants in North America is not a far-fetched fantasy. The native tribes of North America speak of giants in many tales. These stories were handed down from generation to generation. Different tribes used different names for the *very tall people*, but the stories often had a common thread between them. What's more interesting is that while tribal tales of giants range from coast to coast across America, there is a larger volume, or cluster, of stories in one particular area. That area is just south of the Great Lakes, in Missouri. The area ranges from the Mississippi River Valley and the Ohio River Valley, specifically around the St François Mountains.

The Osage (central and southeastern Missouri, including the St François mountains) spoke of "The black rock people / the stone covered ones". These were tall beings whose skin was covered in hard black or red stone or copper scales. It was said that "arrows bounced off like hail on rock". There were reported to have lived in caves and high iron ridges, and had been there long before the Osage arrived. This story was recorded between 1911-1932 by Francis La Flesche. He was a noted Osage ethnographer. Flesche wrote that the tribal elders said it was "from the time of the grandfathers' grandfathers". In other words, a very, very long time ago.

The Quapaw lived downstream on the Mississippi in modern-day Arkansas, but they claimed to have formerly resided in territory up the Mississippi River, in modern-day to Ste. Genevieve, Missouri. The Quapaw called the giants *Ni'kaga* or *Nikkaga*, which means Stone Covered Giants. They described giants with copper or rock, skin that deflected the arrow. The Quapaw legends were that the giants fought with the Quapaw in ancient times near the "Iron Hills". The Iron Hills are certainly the St François Mountains with the many stone out-cropping's of iron ore. By all accounts, it appears that the giants won that fight and forced the Quapaw to move further downriver to the south. This story was recorded by early French missionaries in the 1820s, then again in 1913.

The Missouri, the Iowa, and the Otoe Indian tribes all lived around the Missouri River and its many tributaries. They called the giants the *Min'-ka-si,* which translates to "Stone-Bodied people". These "arrow proof giants" who lived in the "red earth hills" (presumably called such due to the oxidation of exposed iron ores in the St. François mountains, AKA: iron-stained country). One story says that they were finally killed by luring them into deep water, where the stone skin weighed them down, and they drowned. This story comes from J. Owen Dorsey's 1880s collections. The tribal elders dated the events to "when the people first came to the big river".

The Shawnee lived in eastern Missouri and southern Illinois. They called them the *Allegewi* or Stone Giants. They claimed that the Allegewi was "a tall race with hard skin that arrows could not pierce". The Shawnee claim that the Alligewi were eventually driven out of the Ohio and Mississippi river valleys by a joint effort of combined tribes. This story was recorded between

1770-1830s during removal-era interviews. The Shawnee insisted that the war with the giants happened many, many generations before the arrival of the French.

The Dhegiha Sioux group, which includes the Osage, the Quapaw, the Kansas, The Omaha and the Ponca, all shared a tradition. They called the giants the *Wazhinga Ska,* which means White Stone People, or *Wazhinga Zhon,* which means "Copper Skin Giants". They reportedly had copper or red metal skin that made them invulnerable, except at the soles of their feet or the eyes. Linguistic reconstruction shows that the terms are old Dhegiha, meaning pre-tribal split, 1000 years ago. The copper skin detail is consistent across all the tribes.

That's 11 tribal histories in just one patch of the map. There are other stories, legends, and tales about giants from other parts of the continent. Perhaps the most famous is the story of the Lovelock Cave. The Paiute Indians tell a tale of very tall people with red hair, that were known to be cannibals. The local tribes of the area had had enough of the cannibals and fought with them. The local tribes drove them back to their cave (now known as Lovelock cave), set a fire to the entrance, and killed them all. The Paiute called the giants the *Si-Te-Cah*. However, this event happened 2,000-2,300 years ago. The Paiute didn't occupy the area until about 1,000 years ago. It appears that the Paiute are retelling a story from the tribes that previously occupied the area. We don't know the name of the tribe or tribes that did the burning, but we know that they were the pre-Numic inhabitants of the Lahontan Basin. The pre-Numic people had been in the area since the start of the Holocene era. The Paiutes adopting the story is largely irrelevant as archeologists have excavated the cave and not only found a charred level at the appropriate depth, but significant remains and proof of inhabitation dating back to the time of the fire. Perhaps more interesting is the archeologists found the remains of very large sandals. The sandals were 18 inches long. Were these the sandals of a full-grown giant, a man, a woman, or a child? We may never know.

The Comanche Indians have detailed stories about Giants living in the Wichita Mountains, Texas. The Comanche called them the *Piaru Ekaraukapu*, which means; Big Cannibal People. They also called them *Numunuu Kahni Wukipu,* which translates to Man-Eating Giants. According to the Comanche, these giants were "twice as tall as a man on horseback". The Giants would raid Comanche camps and steal women and children, putting them in big baskets and absconding with them back to their caves. The Cannibals' caves were in "Devils canyon" near Quartz Mountain, modern-day Oklahoma, and in the Texas Panhandle near modern-day Palo Duro Canyon. This story ends in a similar fashion with the giants losing a running battle where they get cornered in a box canyon or a cave and then get burned out.

The Hopi of Northeast Arizona have a couple of different stories. The Hopi have a number of names for the giants. The name *Anaasaz*i translates to "Ancient Enemies" and is not spoken often, almost as if it's a taboo, a darker omen of bad times in the past. Another Hopi name of these

giants is *Hisatsinom,* which refers to a clan or race of very large people. These giants were rulers of the local area. There were reported as notoriously cruel leaders. The Hisatsinom lived in large stone cities. These cities were in the Chaco and Mesa Verde areas. Allegedly the Cruel Hisatsinom routinely demanded human sacrifice. According to the Hopi legend the giant rulers became so arrogant, that the surrounding local tribes rose up in revolt and overthrew them. The Hisatsinom were either killed in battles or driven to starvation, with some eventually fleeing the area altogether.

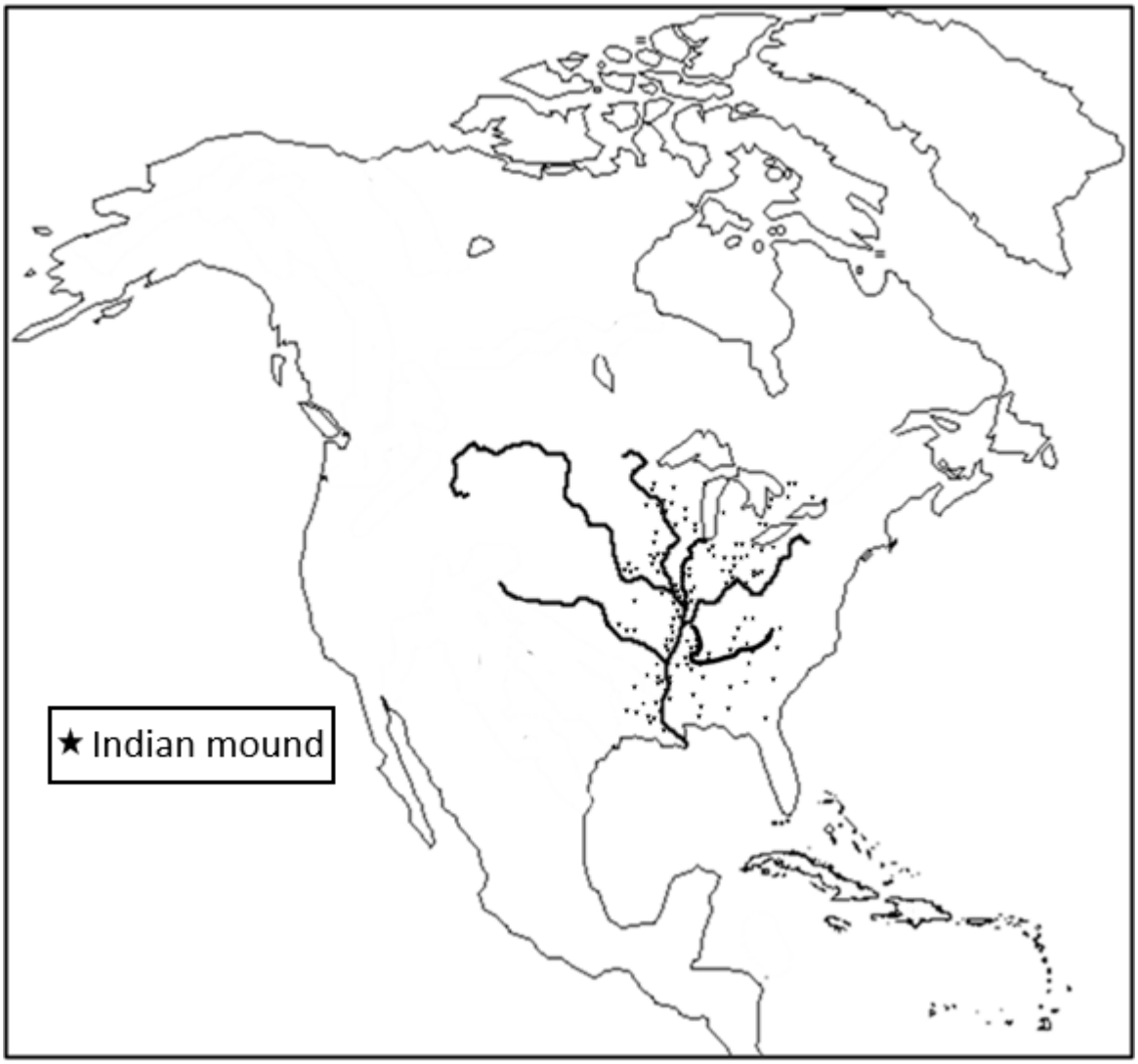
A separate Hopi legend is of the *Kana* (*Kanak* or *Ka-nak*). These giants lived in the Grand Canyon. They were very tall humans, reportedly as "twice as tall as a Hopi man". They are described as tall men that went bad. Interestingly they are said to sometimes have 6 fingers on a hand, or 6 toes on a foot. They were noted for having long arms and large mouths. These giants too, were known for raiding local villages (villages on the South rim of the canyon) and absconding with little children in baskets, to eat back at their caves. The Hopi added an interesting detail of language. The Kana, apparently, spoke a distinct dialect that nobody else in the area could understand. The cave locations of the Kana are on the Kaibab side (north side) of the Grand Canyon. The Hopi called that location "place of the black lava people". The main stronghold of the Kana was Cape Royal and Point Imperial. There is a cave called Kana'a Kweva (Kana's house) Near the confluence of the Colorado River and the Little Colorado. The Hopi still won't go there, and for good reason. The end of the Kana didn't come in the way that other giant cannibals ended. There is no multi-tribe revolt, No burning cave or box canyon. Instead, the Kana were killed by a pair of mythological war twins. These twins appear in several Hopi legends and they certainly saved the day in this Hopi Story. The god-like war twins hunted the Kana almost one at a time. Killing each giant one at a time, each in some different, yet significant fashion. The twin giant hunters killed all of the Kana except one, a child Kana. The god-like war twins of mythology felt pity for the young one and left it alive. Some claim that a local tribe adopted the child, others believe that the last Kana still sleeps in the caves on the north rim of the canyon. Therefore, out of an abundance of caution, the Hopi just don't like to go there. There are still red-stained pictographs of very large handprints found in side canyons, they have six fingers. These are known as Kana Marks.

The Kiowa Indians of the southern plains tell a story that is very similar to the Comanche story. The Kiowa story has giants living in some of the exact same areas that Comanche reported. The Kiowa called them *Tdo-yahn-ko* (also: *T'al-yahn-ko* or *Do-yahn-ko*). This translates to "cave people" or "people who live in the rock". Ther Kiowa story starts long, long ago before the people had horses. In Northen Texas and western Oklahoma there lived a race of huge people called The Tdo-yahn-ko. They were twice as tall as the tallest Kiowa warrior. The Tdo-yahn-ko were very strong and sometimes were prone to cannibalism. They would raid Kiowa villages at night and steal Kiowa children, carrying them away in big rawhide bags. They would take the children back to the north side of the Wichita Mountains specifically to where the modern-day Granite, Roosevelt, and Quartz mountains are in the Wichita Mountains Wildlife Refuge. The Kiowa tried many times to fight the giants, but never succeeded as the giants were too big and strong. One report is the giants could throw a rock nearly the size of a tipi. After a great council meeting held in the summertime. The Kiowa war leaders devised a plan for an ambush to end the scourge of the Tdo-yahn-ko forever. They went to the biggest cave and the main home of the giants and set up an ambush. The cave is known today as *Tdo-yahn-ko Kahni* or "Cave of the Giants". It's still there, on the north face of King Mountain, in the Wichita Mountains Wildlife Refuge, southwestern Oklahoma. The ambush involved fire, just as in other legends, but included an ambush from archers above the cave. The Kiowa also devised a plan to use some of the loose boulders over the cave entrance to prevent giants from climbing up to the overhead emplacement of archers. The real trick was the initiation of the attack. A group of brave warriors would have to sneak into the giants cave first. They would have to employ stealth to sneak in, undetected, with already lit arrows of sage and cedar bark. They then to fire their fiery arrows into the collection of firewood and kindling that the giants had themselves gathered and stored deep in their cave. The warriors would then, after initiating a blaze, have to hightail it out of there, leading the giants into the predetermined ambush kill-zone. Apparently, the plan worked. All but one of the giants were killed either in the cave or in the ambush kill-zone. The one surviving giant made a run for it. The last giant from that cave made it from the north face of King Mountain all the way to Medicine Bluff, that's 50 miles as the crow flies. As the last survivor was climbing over Medicine Bluff, he was struck and killed by a lightning strike! It turns out that Medicine Bluff has high Magnetite content and is prone to lighting strikes. In the aftermath of the battle, Kiowa reported finding giant-sized moccasins, fragments of very large human bones, and some huge needles made of bone. Like the Hopi, the Kiowa still pay respect to the area. There is a sort of reverence to the final battle site. The cave is still considered powerful and dangerous. Camping there at night is just not done by the locals. The Medicine Bluff Lightning strike site is currently on Fort Sill Military Reservation. Coincidently Ft. Sill is home to the Forward Observers training site (Military Occupational Specialty 13F). The Forward Observers are responsible for sneaking up close to the enemy and calling in accurate artillery fire on enemy

positions from friendly artillery. It seems that fate called in an extremely accurate lightning strike on the enemy of the Kiowa, leading to victory over the last of the Tdo-yahn-ko.

Navajo had a giant called *Ye iitsoh* which means "Big Giant". He was killed by a hero named *Naayee Neiizghan* with lightning arrows. The Cherokee had a giant named *Tsundi' Galegi'na* he was killed by the hero-twins known as the "Thunder Boys". The Caddo of the southern plains and Texas had the "Flood Giants". They were a pre-flood group of giants that were arrogant and violent. They were killed during a great deluge (possibly associated with Rockwall Texas). The Inuit had the *Tornit,* or *Tuniit* which means "the big people" or "Tundra Giants". The Tornit were huge, shy and strong people that shared the land with the Inuit ancestors. They were driven out or simply died away, it's not clear. The Iroquois people had *Ge-no-Sqwa* or *Ot-ne-yar-hed* which means "Stone Coats". The Stone Coats were two or three times taller than a man. They wore armor of stone scales, that "no arrow or club could pierce". They lived in hilltop forts located in modern-day upstate New York and Southern Ontario. They were known for raiding villages and stealing women and children for eating. They were lured into a valley, ambushed and killed by the Iroquois. The Tongva people of southern California had the *Pima'vitam,* which means "the tall ones". They lived on the Catalina Islands and were twice the height of a normal man. The Tongva considered them the "first children of the creator". They were drowned in a great deluge that sank the island for 7 days. The neighboring tribes of the Serrano and Cahuilla tell stories about Giants with red or light hair that came from the east in ancient times. They were known for mining for stones and becoming arrogant. The locals eventually drove them into the sea by the use of fire.

The American Titans had a tradition of burying their dead. There are tens of thousands of burial mounds reported in the United States. And over 200,000 earthworks are attributed to an earlier culture. Of the tens of thousands of burial mounds, well over a thousand of them report either very tall people or giants. There was a newspaper craze about the giants in the 1900's, and that led to a large number of copycats and hoaxes. With all the hoaxes being perpetrated and the Smithsonian sweeping in and absconding with genuine evidence, we may never get an accurate account of the authentic giant burial mounds. But we do know where they were. The bulk of the burial mounds were found in the east coasts forested areas. Burial mounds have been found in Wisconsin, Ohio, Pennsylvania, Indiana, Illinois, Minnesota, Louisiana, West Virginia, New York, and, of course, Missouri. They are found along the Mississippi, Illinois, and Ohio River valleys.



Also in Ohio is the Snake Mound. The snake mound effigy is a 1,348-foot-long model of a snake that stands 3-5 feet tall. The snake appears to be ready to swallow an egg-shaped object. Allegedly, there used to be a tall standing stone at the end of the mound.

The stone or stones at the end of the effigy are sometimes referred to as an “alter”. Those stones are now gone. The most prominent story as to where the “alter stones” went is that treasure hunters and looters absconded with them, or that natives and local farmers took them and re-purposed them. So, it seems that they cannot be found and properly tested. However, we have a pretty good idea of what they may have made out of. The specific area, at the head of the snake, still shows strong magnetic anomalies. Between 2005 and 2012 the University of Munich, along with the Ohio Valley Archeological inc. did a series of studies using magnetometers and gradiometers on the Snake Mound. They discovered strong localized magnetic highs exactly at the oval head of the effigy. The exact spot of the former “alter stones” reveals magnetic values that are +80-+102nT above the normal background of the local geology. (nT means; *nanotesla*.

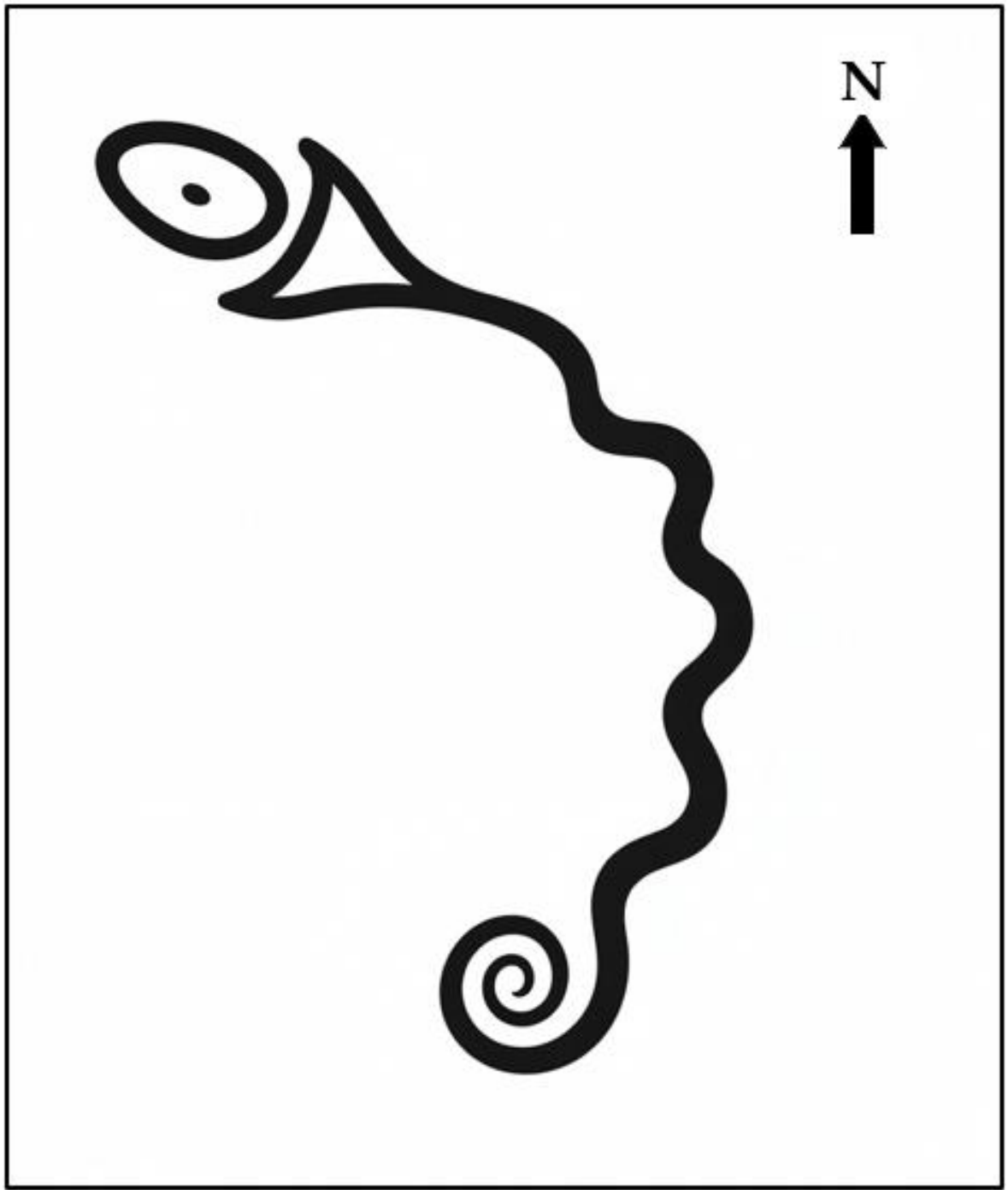
This is unit of measurement that defines the field strength of magnetism.) The magnetic signals are far greater than the surrounding soil or bedrock's magnetic values. We can therefore deduce that whatever was at the head of the snake mounds altar was strongly magnetic. So strong that, even after more than a hundred years after its removal, the magnetic shadow still remains present in its place.

What can produce a magnetic signature? A large piece or several pieces of highly magnetic rock, like Magnetite, Maghemite, or heavily burned hematite, being in place for several centuries. This would slowly magnetize the soil directly underneath through Viscous Remnant Magnetization (VRM).

Repeated fires in the exact spot can turn normal iron oxides into Maghemite, but not at the levels seen in Ohio; it's too strong a signal to match what is found with scattered hearth stones.

A lightning strike can have a rapid magnetization of soil and rock at the strike site. However, the snake effigy head does not fit the profile of a lightning-Induced-Remanent-Magnetization (LIRM). The LIRM produces a "ring" that extends from the strike site. While the snake head effigy has a spot formation like the center of a bullseye. This is "bullseye effect" is produced by the continued presence of a strong magnetic object sitting on that area for a long time.

Lightning strikes create a very irregular, or messy, shapes with lobes or fingers that stretch out. LIRM have a signature with dipolar positive lobes aligned with strong negative lobes, because the current went down and then spread out. The snake mound effigy head is perfectly circular and has a single positive monopole. Another problem with the lightning strike proposal is that LIRM produce the effect that can last for decades, not centuries or a millennium. The magnetic anomaly at the Snake Mound in Ohio has been present for far too long after the removal of the "altar stones". Whatever created the magnetic signature at the head of the snake mound effigy in Ohio was put there on purpose. A culture that had some understanding of magnetics, specifically placed the right material at that specific spot.



Hand drawn representation of the Ohio Snake mound effigy. (With present-day North)

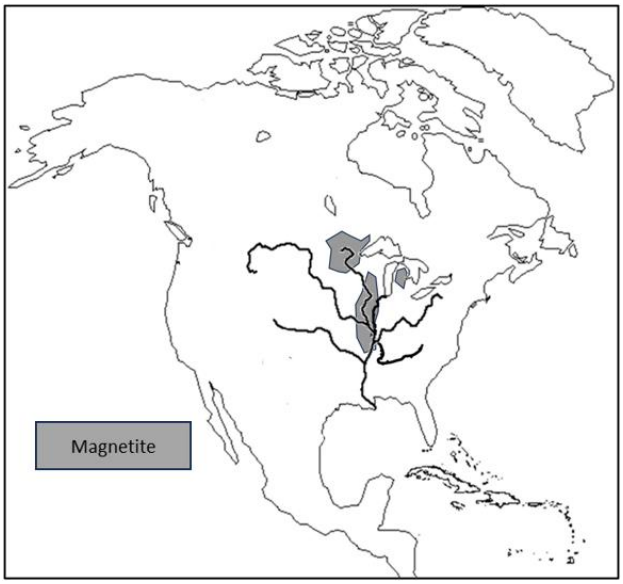
Copper and Magnets

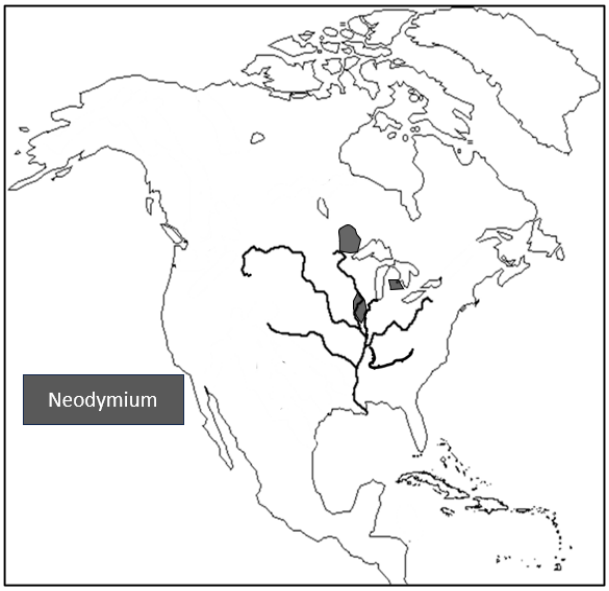
The most likely point of origin for the American Titan civilization to start is at the point where all the stuff I am attributing to them can be found. And that just happens to be at or near St. Louis, Missouri. This area is just south of the Great Lakes. Wild game for hunting is bountiful, and trees for lumber are abundant. Water is never a problem, with major rivers, like the Mississippi River, the Illinois River, the Missouri river and the Ohio River all in the area. Minerals that cannot be found everywhere, are explicitly found here. Basic materials can be found all over the earth, often at depth, but copper and other specific rocks are readily available at the surface in this location. The area stays free of the proposed Laurentide ice sheet, of the ice age, even in the coldest of eras.

Copper is the most obvious sign of the Titans. Copper is readily found at the open sky mines of Boss (Bixby) and Fredericktown. These sites are found in modern day Dent and Madison counties in Missouri, largely in and around the Mark Twain National forest. This area is in the St. François mountains, South of modern-day St. Louis. The rich veins of nearly pure copper broke through the earth with outcroppings of limestone and are readily exposed for easy surface mining. This copper is extracted from the exposed veins and hammered into the shapes that are needed. Circular or semicircular plates are pounded out for suits of plate mail. jewelry or ornamentation could be formed. Knives, arrowheads, spears, axes even fishhooks could be hammer forged against anvils of stone. It can also be formed into pipes of various sizes and for various purposes. Rudimentary helmets, shin guards and braces could be fashioned. We're not overly concerned with the weight of the armor, as the Titans are big guys. The use of plate-mail armor made of copper becomes a signature look for our titans. Plate-mail is comprised of small circles or semi semicircles being sewn on a piece of clothing in an even and overlapping pattern. This creates an impenetrable layer of armor that is flexible and customizable to the wearer and their needs or duties. It could be considered a uniform. I think it should be considered a uniform. As we discover more about the American Titans, we begin to see a military type of structure and organization. Any proper military has a proper uniform. Copper plate mail is the basis of that uniform.

Copper found in the Boss-Bixby, Buckeye, Fox, La Motte mines is easily worked into specific shapes. This creates a previously undiscovered early "Copper Age". An age of technology that predates any of Europe's technologies. It predates the early neolithic bronze age by as much as 12,000 years. Recently several copper tools, arrowheads, spearheads, knives and other implements have been found in Pennsylvania and dated to 8,500 years ago.

Only 15 miles away are large deposits of magnetite, otherwise known as lodestone. These magnetic rocks are found in great concentration in an area known as Pea Ridge. The Magnetite mixed with some Hematite breaks the surface in an orebody outcropping in Washington County, Missouri. Co-located at the Pea Ridge site is neodymium. Neodymium is a particularly concentrated, high-grade magnetic rock. The neodymium is found in the breccia pipes exposed to the surface. Additionally, more neodymium is found at a nearby site called Pilots Knob. All of these minerals are likely essential to the North American Titans living in this region. The use and modification of both copper and magnetic rocks will give a technological advantage to the American Titans over the rest of the world's population for the next 6,000-12,000 years. It will be the basis for whatever views they may have had in regards to, what we now call science. I believe it will also shape the way they view the world.





The prominence of mineral goods factors heavily in the telling of this story of American Titans. The “American Copper Age” is not just a tale of finding usefulness in a mineral. It's one that combines a developing technology with a sort of “Gold Fever”. The discovery or search for gold creates wild and tragic stories with men in our recent past. The Spanish Conquistadors’ search for gold in the Americas, the 49’ers of the California gold rush, the Alaskan gold rush of the late 1890’s into the early 20th century, and likely much of the global trouble that mankind has today, can be somewhat attributed to the quest for financial wealth. Gold Fever is defined as a feverish obsession to seek gold ore or a contagious excitement of a gold rush. A Gold Rush is a heightened migration to an area by people seeking a fortune in gold or mineral mining. A Gold Rush creates more than just roads and trails to mining sites. A Gold rush is one of the most powerful accelerants of technology and societal innovation in history. When huge numbers of a people have a strong incentive to gather resources, breakthroughs happen at speeds that normal research and development can’t match.

Modern examples of innovation from the Spanish conquistadors' search for gold include things like the Patio Process of extracting silver from low-grade ores by using mercury. The Spanish used upscaled *Huaryas*, which are an adopted form of wind-driven smelters that originated from the local indigenous population of South America. The Spanish Navy and ship builders modified the form and capabilities of their vessels to better accommodate the heavier loads, and they added the significantly improved firepower needed to defend the precious cargo. Great leaps in nautical navigation were now financially incentivized. The rapid improvements in astrolabes and rudders took place. Sea port infrastructure improved to provide deeper ports for heavier ships and fortifications to defend the valuable loads. Water powered stamp mills were introduced to Mexico and Peru. Advancements in mechanical engineering were required to build the “Carolina”, a system of 33 reservoirs and aqueducts that combine waterwheel complexes with artificial canals to create a hydraulic silver refinery. The organizers of this movement demanded rapid improvements to cartography and map-making. The use of local herbs was discovered by the Spanish and spread throughout their culture too. The chili paste was initially used as a treatment for mercury poisoning.

The use of coca leaves was discovered. The local population, often used as unwilling or slave labor, introduced the Spanish to the coca leaf, which, if chewed in its raw form, works as a stimulant. This stimulant was used to keep labor working and energized while at high altitude in Potosi, Bolivia. The Spanish brought samples of the coca leaf back to Europe. Over time, the refinement of the coca leaf became cocaine, that’s a whole different story of different problems.

The California Gold Rush of 1848-1855 turned a sleepy harbor village of 200 people into a metropolis of over 35,000 in just two years. Today, over 7.5 million people live in the San Francisco Bay Area. The gold rush sparked the first transcontinental railroad, which was finished by 1869.

Changes in shipbuilding occurred in response to the California gold rush. The Clipper ship boom happened due the need for faster ships to transport men, logistics, equipment, and gold. Hydraulic mining was invented in the 1850 by the gold rush. Hydraulic mining used high-powered water cannons to wash away entire mountainsides in sluices and then screen the resultant debris for gold. It was incredibly efficient and incredibly destructive to the landscape. Likewise, Alfred Nobel perfected and marketed the nitroglycerin-based dynamite for use during the California gold rush. Again, this new technology was much more efficient at removing large swaths of earth, giving miners access to the gold under the surface. This also, by definition, is destructive. The dynamite was also incredibly useful in clearing difficult sections of land for roads and the incoming railroads, thus the improvements to the lines of communication and transportation. The Pony Express was created to connect the newly wealthy West Coast with the East Coast power centers. The transcontinental telegraph was invented soon after that, changing our primary means of communication in the Western world forever. Marketable consumer goods flourished during the California gold rush. Borden's invented condensed milk for miners to take up to their more austere locations. Canned goods became a staple for the 49ers, as not only could they be carried and then stored up in the remote Sierra Mountains mining camps, but they could travel from all over the world to get to San Francisco, without spoiling, then be sold to miners. The same applies to the Kellogg's brothers, who created ready-to-eat cereals that traveled well as a dry good. They marketed their cereal as a shelf-stable, healthy option. Levi's jeans were created directly in response to the California Gold Rush. The miners needed riveted denim pants that were more durable than everyday slacks.

The Alaskan or Klondike Gold Rush produced the White Pass and Yukon Route railways. These railroads crossed the most difficult terrain and vast distances in record time. Much of the terrain was believed to be impossible to build on, yet gold fever is a powerful force of innovation. The first large-scale use of aerial-tramways was instituted to transport heavy mining equipment up otherwise impossible slopes. The Richardson and Steese highways were initially dog-sled and wagon trails used for the gold rush. The Cordova-to-Fairbanks copper and gold supply route has become the modern highway system used in Alaska today.

Copper and magnetic rocks were the most valuable and useful minerals for the Titans. The pursuit of additional material may very well have played a large part in the story of their expansion. "Copper Fever" or "Magnet Fever" may have been a thing during their reign on Earth. As I have demonstrated above, the "fever" for a particular mineral, be it silver or gold, copper or magnetite, is a massive *life-hack* for innovation.

Tech and Tunes

The Titans, as a culture, evolved much in the same way that humans evolved. Their progress was initially slow. Over time, the advancements started to pick up speed. The technical revolution of the Titans follows a pattern like the Gompertz curve. They started out as a typical Paleolithic society. Basic hunter-gatherers that scratched a living out of the local landscape. As the landscape started to change, along with the weather, they started to expand their horizons. They began spreading out and exploring new areas. The expansion of the Titan stomping grounds was accompanied by the eventual expansion of their mind. The result was a progression in technology.

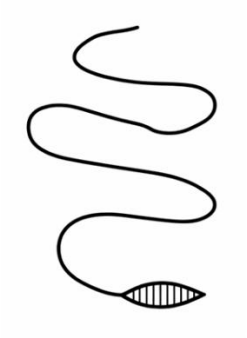
The Titans had technology that evolved in a manner different than what is recognized today. But it started in the same way that experts believe we started. The Titans had fire and stone. These two elements are the basis of their technology. The combination of fire and stone is like peanut butter and chocolate for the Titans. The basic elements of fire and stone are the simple two-ingredient recipe for a forge.

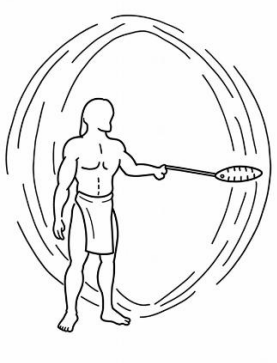
The first and most obvious stone of value for the Titans was clearly native copper. The best documented example of ancient cultures harvesting native copper is probably in Michigan. The Keweenaw Peninsula and the Isle Royale region near Lake Superior. Here, the native copper is naturally exposed in thick veins already in its metallic form and simply needs to be pried out and hammered into shape.

The Titan society seems to have started in the St. François mountains. This area is mineral-rich, not just in copper but also in magnetic rock. The Magnetite and Neodymium deposits in these mountains are openly exposed to the surface. The Titans grew up with these elements being a part of their environment and daily life. The magnetic properties of these materials, naturally, would become a part of their lives. It would influence how they shape their views, of how the world works. Any culture would use its locally available material to make their lives, and daily workings better or easier. You use what's available. The Titans had magnets, lots of them. Their technology was, in part, initially based on magnetism.

Another potential technology that was potentially improved upon was sound. The Titans seemed to use sound, which essentially translates to vibration, as a tool that helped develop their future technologies. The most obvious example of a sound-generating device used by the Titans is a bullroarer. A bullroarer is a small, shaped plank that's tied to the end of a string or rope. The rope is then swung in a circle faster and faster, and the small carved plank then starts to resonate with a humming-like noise. The bullroarers are known to be surprisingly loud. A bullroarer would produce a continuous tone that could be sustained for long periods of time. As a modern-day example, the Australian Aboriginals are known for communicating long distances with this exact

method. A bullroarer could also be tuned to a more specific frequency range. A bullroarer can produce sounds that are many decibels higher than many other instruments. And wouldn't you know it, Bullroarers have been found in that exact same area: the Missouri River valley, the Illinois River valley, the Mississippi and Ohio River valleys.





Here's how to make a bullroarer really roar.

- **Spin rate (v):** Loudness scales ~v^4–v^6 (since force ~v^2, power ~force^2 f^2, and f ~v for fixed geometry). Faster whirl = exponentially louder. Use longer string for bigger orbit radius → higher v at same arm speed.
- **Blade size/area A:** Larger area → more force → more power (roughly $P \propto A^2$). But too big/heavy slows spin.
- **Mass/density:** Heavier blade (e.g., dense hardwood) stores more kinetic energy, sustains higher average v against drag → louder sustained roar. (Light ones "whoosh" softly.)
- **Shape & edge:** Flat, rectangular with sharp edges maximizes unsteady flow/vortex shedding. Slight airfoil camber or tilt increases average C_L.
- **String length:** Longer string → larger orbit radius R_{orbit} → $v_{orbit} = 2\pi R_{orbit} f_{orbit}$ higher for same f_{orbit} → more power. Also reduces damping from hand.
- **Centripetal/tension math** (to avoid slack, which kills spin):

$$T\cos\theta = mg, \quad T\sin\theta = m\frac{v^2}{R}$$

(θ = angle from vertical; heavier m or faster v needs stronger T.)

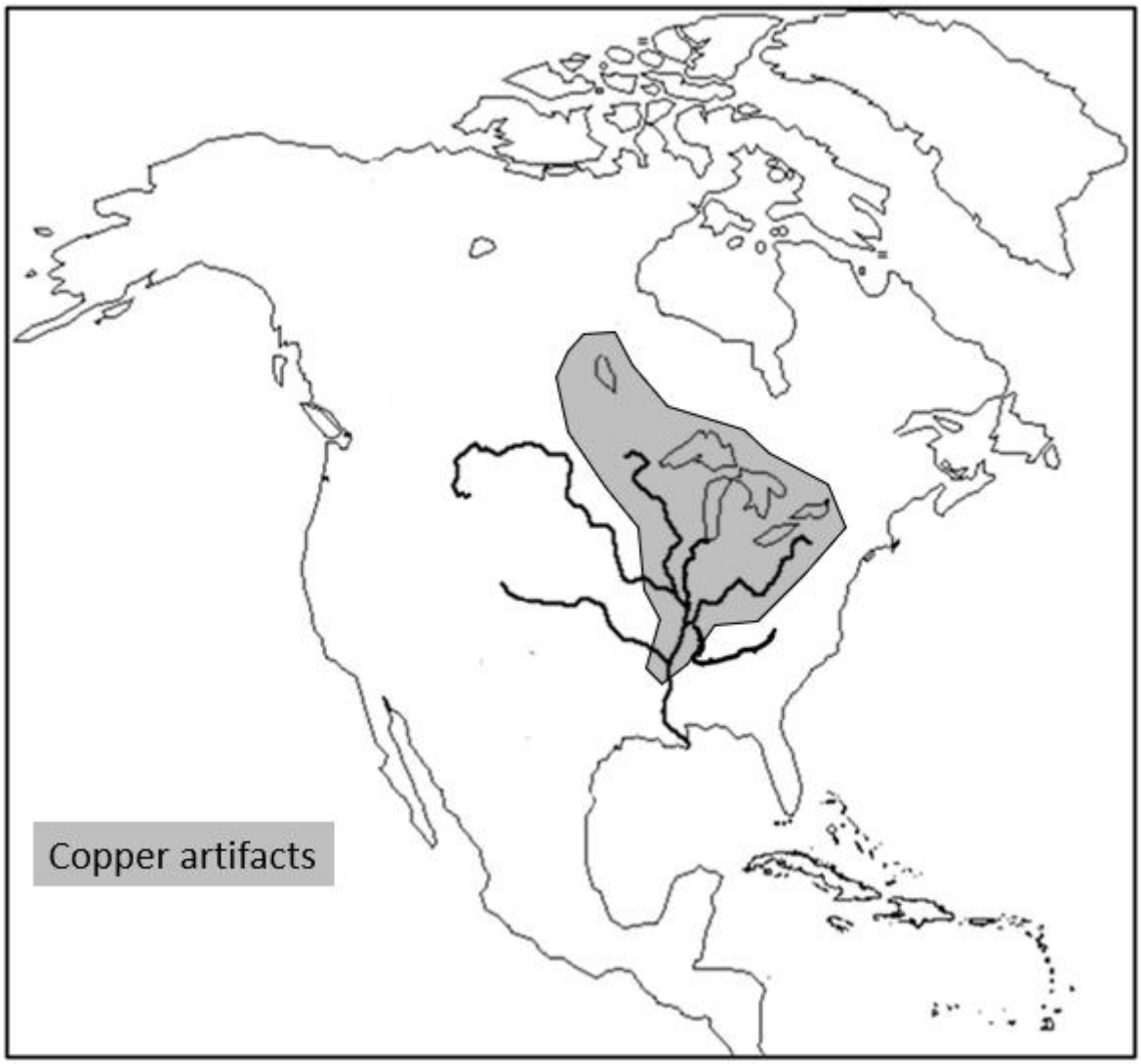
- Rough rule from makers: Longer/narrower/heavier blades (e.g., 30–50 cm long, 5–8 cm wide, 100–300 g) get loudest. Spin initiation (twist string first) builds initial torque for fast spin-up.

We haven't yet found significant evidence of organized agriculture in Paleolithic America yet. The earliest accepted evidence of agriculture in North America does come from sites like Phillips Spring in Missouri. Phillips Spring, Missouri, is just west of the Mark Twain National Forest and the Pea Ridge area that is the potential point of origin for the Titans. The Meadowcroft Rockshelter in Pennsylvania has shown evidence of intensive plant use and potentially proto-cultivation, with the collection of wild seeds. The collecting of seeds is only used if you intend to plant them later. That's what seeds are for. The dating is sometimes contested, but early indications place this organized use of plants in the late Paleolithic period, over 16,000 years ago. Meadowcroft Rockshelter is near the Ohio River that flows into the Mississippi River at a

confluence not far from the Pea Ridge site. The site is along a natural line of drift and communication to the Titan home site. We see agriculture become more prevalent and more organized by the Titans as they expand their footprint over the world.

Like agriculture, Paleolithic animal husbandry can be hard to isolate evidence for. We don't have concrete proof of animal domestication in North America in the Paleolithic period. However, we do begin to see the signs of animal husbandry and the domestication or use of animals by the Titans who have traveled abroad.

Traveling abroad all by itself can be a catalyst for innovation. The Titans definitely didn't stay in place. Once they got the travel-bug they started moving around prodigiously. They didn't sit on their hands in Missouri or Pennsylvania. They explored, searched, and expanded their borders and influence across much of the world.



Migration

From their home in the St. François mountains, the Titans' initial travel by foot would have been along the rivers. The Mississippi, the Missouri, the Illinois, and the Ohio river valleys are natural lines of drift. The concept of Riverine Migration is well known to archeologists and sociologists alike. Following rivers, up or downstream, can lead to larger bodies of water. This brings us to a familiar model of human migration, known as coastal migration. The Out-of-Africa proponents like the hydrology-following model of human expansion. The foot travel in the form of Riverine Migration would take them to the Great Lakes. To continue north across a more equatorial and melting Canada leads them to the Arctic Archipelago. The Arctic Archipelago of northern Canada would have been a slightly warmer region than it is now, but it is still filled with melting glaciers. Deep canyons. It's filled with rivers of meltwater from the still prominent glaciers, which are mixed with patches of grassland, pro-glacial lakes, and jutting peaks. To travel, hunt, forage, and live amongst patches of green mixed with patches of ice would be very familiar to any peoples living in the late Paleolithic era. Continuing across the Canadian Arctic Archipelago leads to the, at the time, rapidly thawing Arctic Ocean. Riverine and coastal migration behaviors coupled with an equatorial draw are natural animal behaviors, it would certainly apply to the Titans here.

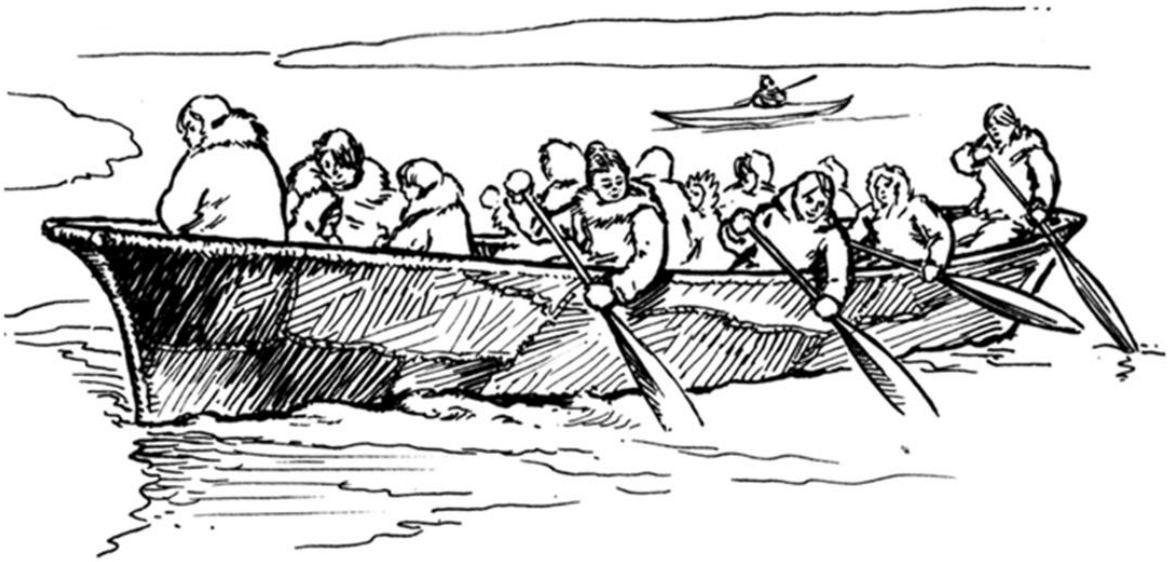
I propose that the water-following migration pattern is a two-way street. The same way populations expand by following the water out is the same way they find their way back home. As time progresses, so does their territory and the spread of their influence. The expansion of the Titans from their civilization's point of origin in the St. François mountains would naturally take them not just in an East-West direction, keeping them in a familiar climate. It would be natural for them to move North towards the warmer zones near the equator. To the North would be the Great Lakes, modern-day Canada, and eventually the Arctic Ocean. The natural line of travel along the Arctic coastline leads them to Alaska and the Bering Strait. The Bering Strait was above water at this time. The entire landmass is called Beringia. It wasn’t a thin land bridge but rather a sub-continent-wide land mass that connected Siberia with North America. It was already a two-way street. Travels into Siberia would be common. Following herds of caribou and woolly mammoths across the land bridge would be normal hunting behavior. The sharing of technology between cultures is possible. The bone needles, sandals, basket weaving, a cultural exchange of, whatever. Travel by foot would naturally be joined by travelling by water. Carrying a load with greater ease downstream, across rivers, lakes, or large ponds, is obviously better than lugging your load all the way around the body of water by foot. The carrying of large loads of game, loot, or trade goods back home is better done by boat. It’s not rocket science to figure out that loading up a raft upstream, and letting the current drag you downstream, while you work your way across the river, from one side to the other, is a much more efficient means of transportation. This time-saving method of travel would be looked for. Over time, the foot navigation would be coupled with more and more nautical navigation.

BOATS

After the Lake Mungo Event 24,000 years ago, it most likely took several hundred years for the majority of the ice to melt away, at least mostly away, from the Arctic Ocean and surrounding areas. With the tallest and deepest glaciers never totally eroding. This is why ice core samples of today, drilled on ancient glaciers, still show ice samples from eons past. The freeing of the waters from ice would allow the budding civilization to begin exploring travel by water.

I am suggesting that great advancements in shipbuilding, in North America, took place sometime after 24,000 years ago. The early Paleolithic rafts had already given way to Kayaks around 40,000 years ago. Kayaks were soon accompanied by umiaks. An umiak is a sort of large open-top kayak, much like a canoe. The Eskimos used the larger open-top umiak as a support vessel that could carry the day's catch. The umiak was also known as the women's boat. The kayak is typically made for one or two persons and is more agile and maneuverable. Kayaks were the attack ships used by the men for harpooning larger prey. An umiak is generally an open-top design capable of transporting multiple members of a supporting party; the women who came along for the hunt were that supporting party. The catch was made by the men in Kayaks, then transferred to the umiak to be prepped and transported back to shore. Over time, the umiaks made of seal skins would be improved upon. The waters of the vast pro-glacial Lakes would have allowed the use of these open-top canoes, while it also required the use of V-hulled boats. The flat-bottom rafts suitable for river crossings would not fare well in the larger open bodies of water, just ask Kubla Khan. A V-shaped hull on a craft is necessary for stability in open water, perhaps even a keel of some sort. The umiaks would eventually give way to more rigid canoes with equal room for open storage. The American Titans would require larger and more sturdy crafts to support, not just their immense size and weight, but the logistical needs of a very large people would be larger and greater too. The canoes eventually grow in size, dimension, and capability. The open-top boats or canoes become longer. Larger longboats with V-shaped hulls designed for use on open water are the natural progressive step. Eventually, paddles and oars are complemented by the inclusion of sails. The sails grow in size and efficiency. We know the early Denisovans had needles for tailoring something at least as far back as 50,000 years ago. If the needles were used sew together long since rotted away cloth and textiles, or merely to stitch animal skins together, we don't know. I would suggest the invention of textiles is synonymous with rope making, and rope making is synonymous with sailing and fishing, thus early textiles are not entirely out of the question. Using the pro-glacial lakes as a launching point for advancements in shipbuilding allows for steady progression to larger bodies of water later. From rivers to lakes, from lakes to bays. From bays to seas and eventually to oceans. Without a documented history, it's difficult to know exactly how this happened. Regardless, the advent of shipbuilding and sailing in particular exponentially increased the range of the late Paleolithic North American peoples.

We can reasonably assume the purpose of the travels was primarily for hunting and gathering purposes. The search was most likely for resources like lumber, or for new hunting grounds, edible plant foraging, trading with neighbors, or simply fishing. That search may have included the quest for more magnetite and copper.



Picture of umiak with kayak in the background (Sketch courtesy of Pearson Scott Foresman)

Alaskan Nightmare

From roughly 2.7 million years ago, the Bering Strait was a land bridge. This land mass seemed to come and go based on rising and falling sea levels for thousands of years at a time. From approximately 100,000 years ago until about 11,000 years ago, that land mass was generally above water nearly the entire time. That Land bridge is also known as Beringia. A common misconception is that the Bering Strait land bridge was a thin corridor of land that connected North America with Russia. This is not accurate. The land bridge was a massive and wide track of land. The land mass was so wide that it was Beringia, practically a sub-continent itself.

The entire Arctic Coastline, including Siberia, Beringia, Alaska, and the Canadian Arctic Archipelago, all the way to Greenland were, at the time, equatorial in position. The existing glaciers and ice sheets on the land and the water would have been going through a melt phase. This melting phase would have created rivers of fresh meltwater. The entire area would have had large patches of ice mixed with growing areas of vegetation. The global temperatures at the time were still 10-15 degrees cooler than what we would expect now, but deglaciation would have been a steady stream of meltwater progress just the same. Some ice core samples can provide data proving the continuous existence of that particular patch of ice for several tens of thousands of years. Other samples fall short of the mainstream narratives' timeline. Likewise, Woolly Mammoth remains have been found on St Paul Island, proving that the entire area was not under a continuous and solid sheet of ice. A mammoth requires several hundred pounds of vegetation a day to survive, just like a modern-day elephant. Despite any Ice Age moniker, these beasts eat plants, lots of them; they cannot exist in an icy landscape barren of plant life. The cores from Agassiz, Barnes and the nearby Devon Ice cap show extreme fluctuation in temperatures and sharp cold reversals. Ocean floor sediment samples that were influenced by Archipelago drainage reveal a five-fold increase in Ice-Rafted Debris (IRD) from the Canadian Archipelago.

The uppermost areas of North America were not a solid sheet of ice, but rather were a patchwork of ice and vegetated areas crisscrossed with meltwater streams, pro-glacial lakes, and rivers. The travel of humans and animals alike would have weaved their way through the patchy landscape filled with rushing rivers for the entire epoch between 24,000 years ago and 12,000 years ago, just as they probably did during the previous warming periods in that area before. The foot traffic across it, by animals and humans alike, went both ways according to Native American folklore. More to the point, a recent genomic study of ancient DNA from both Alaskan and Siberian natives suggests that a long-isolated Beringian population existed between 24,000 and 15,000 years ago. The Bering Strait land bridge wasn't just a travel corridor; it was a home.

Today, we call the local tribes in the region the Inuit. The surviving Inuit have their own giant legends that echo the same stories that their southern Native American counterparts have told for centuries. The Inuit called them the *Inugpasug*, *Inupasujuk* or simply the *Tuniit*. The Tunitt

aren't considered just very tall humans, they are considered semi-divine, supernatural beings that hunt, capture, and eat humans. They arrive in ways that echo migration patterns, and sometimes that's by boat. There is the "Giants Cave" from the Copper Inuit traditions, near the Arctic River. They were known to sometimes arrive by boat and use the cave as a temporary hunting campsite. Very often, when food was scarce, they would round up some humans to make their meals. There is a female giantess named Amautalik who has a habit of absconding with children for her meals. The Tuniit were considered the original inhabitants of the area, sometimes being confused with pre-Inuit Paleo-Eskimos. They were recorded as very tall and very strong, but sometimes shy or simple-minded beings. In Kiviuq's epic cycle, there is a hero (Kiviuq) that travels all over the Arctic region, from Alaska to Greenland, scaring off the troublesome giants and battling cannibal giants, along with bears, sea-monsters, and whatever else threatens the locals. He becomes the Arctic's wandering giant hunter that lives on in local legends.

People successfully living in Beringia would have had to beat the odds, so to speak. They didn't just have cannibalistic giants to contend with. They had an ever-changing environment to adapt to. They almost certainly had to stay near the coasts. Alaska or Beringia is uniquely positioned to become a brutal nightmare during the initial melt phase after the pole flip and crustal slip.

Alaska, currently, has a sub-arctic position that allows for a short but bountiful summer season, or growing season. Much of the ground on lower elevations is swampy and riddled with rivers. This is why the moose in Alaska are so prevalent; they thrive in swampy regions. Locals often joke about the Mosquito being the state bird of Alaska because they are large and also extremely prevalent. The average mosquito larva enjoys a short development period, of only 7-10 days, from egg to flying nemesis. There are so many mosquitoes in Alaska already that they make up an estimated 96 million pounds of biomass annually. That's a lot of bugs. Entire herds of caribou are known to seek high ground and icy patches on windy hilltops to escape the wrath of the mosquitoes. The vegetables grow to near mythic proportions in as few as 100 days due to the fertility of the soil and the near constant summer sun exposure. The fungal expression in Alaska is nearly without parallel. The mycelium network that spreads between the moist soil and the permafrost is vast, deep-reaching, and resilient.

The pole flip, crustal slip, and newly acquired equatorial position put this flora and fauna combo into overdrive. The meltwater from thawing ice would create vicious rivers that carve up the landscape. Swamps would double or triple in size. The mosquitoes, already big, would possibly increase, not only in size, but definitely in number. The mosquito populations could increase by 10 or even 20 times their current size. Thick swarms of mosquitoes would dominate the skies. Like thick swarms of blood-sucking threats that might get so dense they darken the sky. The mosquitoes would become like an apocalyptic plague all by themselves. Getting targeted by these dense swarms of large, even oversized, mosquitoes would be absolutely brutal and humbling for even the largest or hardiest of creatures.

The rapidly thawing permafrost would release large amounts of Carbon Dioxide into the atmosphere. While increased CO2 isn't necessarily what we would enjoy breathing, it is a beneficial bonanza for the vegetation. The plants would bloom in an explosion of growth. The increase in CO2 feeding the plant life would imminently result in increased oxygen being generated by the plant life, balancing out the atmospheric mix. Alaska, already known for record-setting vegetable growth, would experience a boon of Flora expansion and the potentially extreme over-growth of invasive plant species.

The Fungi would also enjoy the environmental boom. The sometimes-dormant mycelium networks would wake up and actively start hunting for decay to feed on. The spore-producing surface elements would be able to dramatically increase in size, effectively producing giant mushrooms. Giant mushrooms mean increased spores being released into the air. Imagine clouds of fungal spores so thick they are visible, like often seen, waves of pine pollen floating on the breeze and blanketing entire areas.

The algae blooms would also be rather dramatic. Brown, green, and red algae would enjoy prime conditions for growth. They would choke out entire patches of the wilderness with their waterbed-like spreads, effectively creating sinkhole traps that look like clear areas.

Traveling by foot over Beringia would be tricky, dangerous, uncomfortable, and problematic, to say the least. It would take decades, maybe even centuries, for this nightmarish, wet, and green hell to balance out and become more hospitable for more mammals to inhabit the area more routinely.

Any person traveling into this area, at the time, would quickly see and feel the effects of this nightmarish landscape. Like the caribou heading for windy high ground to get some relief from the mosquitoes, people would find instant relief on the windy coastlines. Consider an elephant that's afraid of the mouse; the Titans, rightfully, would have avoided the potential peril of things much smaller than themselves. In doing so, the Standard Operating Procedure (SOP) would have

quickly become traveling around the entire swampy landmass by boat, avoiding the wild and hazardous, humid hell that would have been Beringia.

The initial travel by the American Titans towards Beringia would have been on foot. However, upon nearing the swampy hell-scape, striking for the windy coastlines would have quickly become the recommended avenue of travel. Whatever mineral wealth may exist in the heartland and mountains of Alaska or Beringia would have been avoided. The juice just isn't worth the squeeze. The incessant swarms of oversized mosquitoes and natural perils of this utterly brutal landscape are more than any reasonable animal could bear.

The coastal migration pattern would have outpaced any slower land travel route. The "Kelp Highway" is a model that suggests that people migrated down the coastline into North America, avoiding the icy landscapes altogether. As the Native Americans suggested, that route would be traveled in both directions. That route also implies a level of progress in shipbuilding that most historians and archeologists are not prepared to accept. The Titans, with their budding advancements, would have been in a prime position to move both ways up and down the Kelp Highway, and they did it with boats.

Asia and Russia

The Titans migration would have been split on the two sides of Beringia. One side of this travel was in the Pacific Ocean, and the other side was inside the confines of the Arctic Ocean. I'd like to address the Kelp Highway and the Pacific Ocean travels first. The Pacific Ocean currents, with Earth's crustal orientation between 24,000 and 12,000 years ago, would have made travel in the open water towards China, difficult for anything other than coastline hugging. The currents would have worked against sailing in the open waters of the greater Pacific Ocean. To compare it to modern currents, it would have been like Christopher Columbus trying to sail to the Americas by going north towards Iceland, then continue past Greenland and then down the east coast towards Florida, finally down to the Caribbean. It's the opposite direction of travel to what the currents allowed early sailors to do. With the sea levels being lower, the Aleutian Island chain would have acted as a bit of a buffer from the strongest of the ocean currents, not unlike the Outer Banks of North Carolina today. Passing the Bering Sea would take them into the Sea of Okhotsk.

The local people of the area remember the Titans fairly well. The Nivkh people of modern-day Northern Sakhalin and the Amur estuary called them the *Tyl-vo*, which translates to "mountain tall people" or the *nKurn-Kho* which means "Sea Tall People'. The Tyl-vo were 12 feet tall with golden or red hair. They arrived on big skin boats. They wore "red metal shirts that rang like bells". The Tyl-vo were said to have carried "Thunder spears". The Nivkh still point to the old copper workings on Schmidt peninsula and the magnetite rich basalt beaches and call them the "Tyl-vo forges"

The Orok and Uilta people of central Sakhalin called them the *Kanga-kur*. The Kanga-kur came from the east and wore "copper scale armor". The Kanga-kur also carried "fire-sticks that spat lightning." The Orok people claim that the kanga-kur would demand human tribute as a sacrifice every winter. The legends directly link the Kanga-kur to the old copper mines at Mgachi and Vostochny on Sakhalins east coast.

The Evenki and the Oroch peoples, on the Russian mainland, opposite of Sakhalin called the Titans the *Chulugdyr*. These red or blonde-haired, copper armor-wearing giants used "black stones that called thunder". They were last seen walking along the coast back towards their home. They vanished in the ice, presumably headed back towards Beringia. To this day, Evenki shamans still use "thunder stones" that they collected from old giant camps on the Tugur Pennisula.

The Sea of Okhotsk was somewhat, but not completely, shielded from stronger Pacific Ocean currents by the Kuril Islands being more prominent due to lower sea levels. In order to proceed along the coast of Siberia towards China, they would take advantage of the breakwater that is the Kuril Islands, or pass between the island of Sakhalin and the Tugur Peninsula to get into the Sea of Japan. This strait was called the Strait of Tartary.

The first and foremost island you come across after passing the Strait of Tartary or the Kuril Islands is the Japanese island of Hokkaido. Japan has numerous myths of giants in its history. Japanese giant myths mostly stick to fantastical god-like giants that created the landscape, the lakes and oceans, and towered above the clouds. Except, there is one set of Japanese stories that stands out from all the other, more metaphorical examples. That's the story of the Ainu.

The *Ya-un-kor-kur*, literally "The Big People", lived up on the north side of Japan on Hokkaido and in the Kuril Islands. The Ya-un-kor-kur were said to be twice as tall as normal man; they had red or copper colored hair and practiced metallurgy. The Ainu report that the Ya-un-kor-kur had great or large cauldrons used for metallurgy. Wouldn't you know it, Hokkaido Island has copper and magnetite deposits. And those deposits were exposed at the surface for easy discovery and mining. The Outcroppings of copper can be found in Shimokawa, Hayakawa, Shakako, Toyoha, Oe and Asari, all on Hokkaido. The magnetite is found in two different forms. Hydrothermal deposits produce veins of ore that can be exposed in outcroppings. These outcroppings were found at the Sahara area near Shakotan and Ushikawa. Black sand beaches, also known as Iron Sand, are found on the island of Hokkaido. They have a 20-40% magnetite content. Coincidently the magnetite found on Hokkaido is called Ti-rich magnetite or "Titanomagnetite".

The Ainu story of giants is a familiar tale. Ya-un-kor-kur giants that were twice as tall as an Ainu warrior are said to have come from "*Poi-ya-un-pe*" which literally translates to "the land across the distant sea". They traveled to Hokkaido in boats made of whale skin or giant cedar trees that were so heavy that 20 men could not lift one. The female version of these giants was called *Poi-ya-un-mat*. They were considered cannibalistic ogresses. Legend has it that three Poi-ya-un-mat paddled from "the country at the edge of the world", in a boat made entirely out of cedar. One ancient Yakur (song) explicitly calls the giants the *Repunkur-rapok-kur*, which means "The people who cross the offshore sea". Every tradition, story or song about these giants explicitly states that they were not originally from the island of Hokkaido, but rather, they were from somewhere else. They were from; "the land where the sun rises out of the water" and "The country of the tall pine trees across the great water".

The Ya-un-kor-kur or Repunkur wore a thick armor. The armor was said to be made from whale hide or bear hide and have some form of iron breastplate, and the armor was adorned with whale bones. Legend has it that one giant was killed by shooting an arrow into the exposed armpit where there was no armor coverage. The giants also had metal weapons, like huge metal swords. One sword was said to be "as long as a boat". And finally, we have the addition of a large round shield, made from the shoulder blades of a whale.

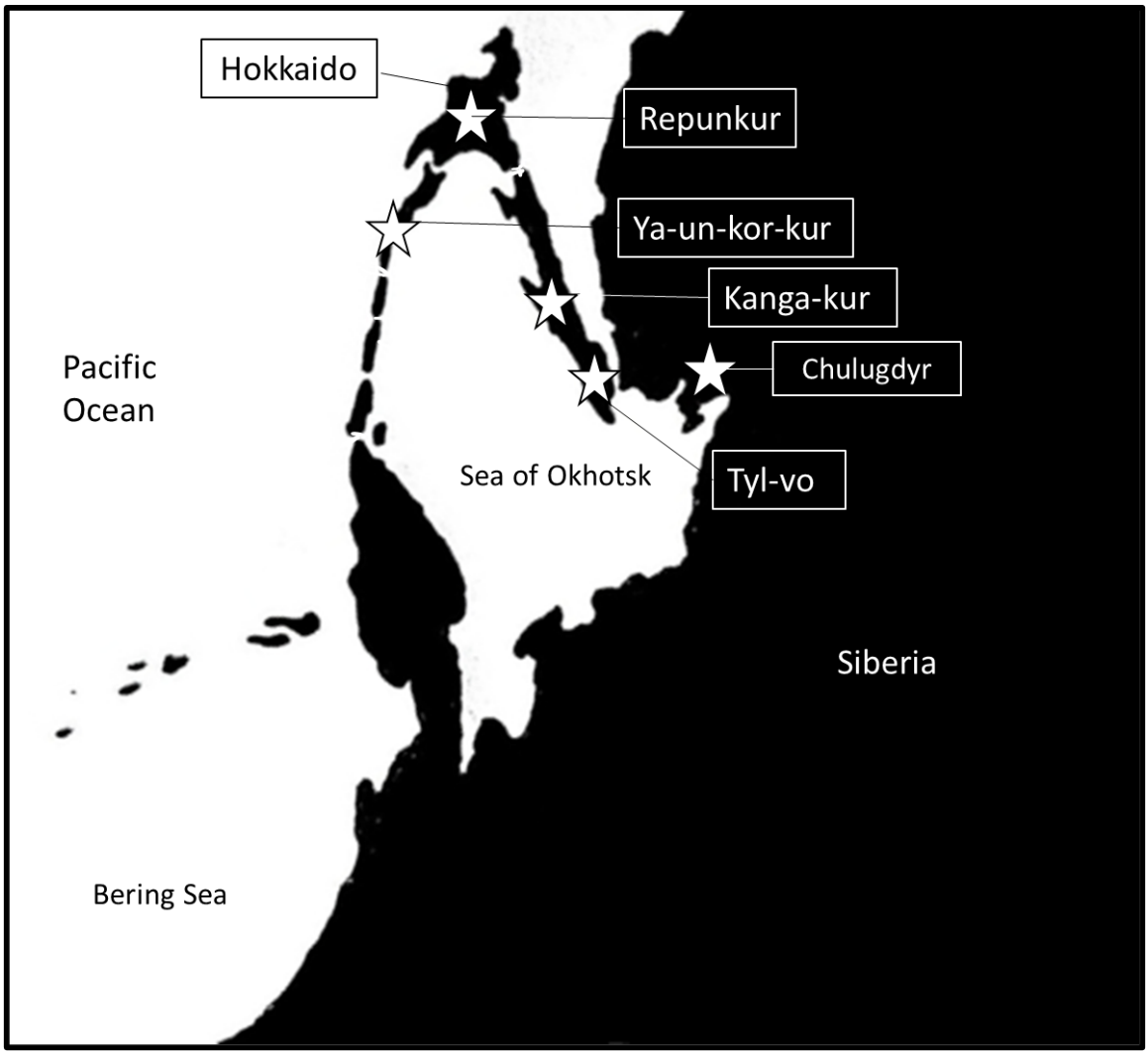
Did the Repunkur eat people? Yes, they did, constantly and, one might say, enthusiastically. The primary source of food for the giants in every Ainu story was the local people. The Ainu were sometimes kept in cages or pens made of entire tree trunks. They were treated like livestock and

would be fattened up, like a farmer would a pig or a bear. One Repunkur village, on the Shiretoko Peninsula was said to have a drying rack, for the preparation of meat, with hundreds of human victims on it. It was like a mass production facility for Ainu jerky. It was said that the Poi-ya-un-mat (Repunkur Females) preferred the meat of women and children because "their meat was sweet and did not need much salt." It's all looking like a pretty grizzly scene.

The modern Ainu tell the tale of how the Repunkur were finally defeated. A character named Okikurumi is their god of thunder and lightning. He could be considered the Japanese version of Thor in Norse mythology. Okikurumi is a culture hero and guardian deity. He is often described as the one who descended from the heavens to teach the Ainu essential skills like making fire, hunting, fishing, farming millet, building homes, brewing millet wine, and proper worship of the gods. In most traditions, he's explicitly portrayed as a half-god, half-human being, something like a Titan-human half-breed. Scholars like Kyōsuke Kindaichi and others note this hybrid nature.

One Epic claims that the Repunkur only came out to raid villages during the summer months because "when the thunder god speaks, our iron turns soft and our courage melts." (I don't know who would have spoken the Titan language enough to translate such a phrase. And the use of the word "iron" indicates a disconnect of time.) A recurring line in Ainu songs is "The Repunkur fear the voice of the sky more than the arrows of men." Okikurumi defeats the giants in series of three battles. Each battle features lightning as Okikurumi's main weapon. When the last of the Repunkur are in full retreat, in their giant cedar boats, Okikurumi calls in one last lightning strike to destroy the fleeing armada. The boats are all simultaneously destroyed by a multi-pronged lightning strike. This colossal lightning strike hits all of their fleeing boats at the same time. The Repunkur are all either electrocuted instantly or they drowned in their metal armor. It is said that fishermen, to this day, still avoid the black rocks in that part of the sea because they are the remnants of the Repunkur armor. During private bear ceremonies on the Saru and Tokachi rivers, when thunder starts rumbling in the nearby mountains, The elders will pause any ceremony and pour a cup of sake, face the east, and say, "Okikurumi is walking again. The Repunkur will not return tonight."

It does appear that the Titans' journey by sea along the Asian coast was largely stopped at Japan.



If the Titans had walked in a more northwards direction instead of keeping to the warmer latitudes, they would have been moving towards colder climates, but they would have run into the Bayan Obo ore deposits of Inner Mongolia. The Bayan Obo ore deposits are a collection of, perhaps, the richest deposits of their desired minerals, in the world. A huge black mountain that is striped with yellow, green, and purple oxidation bands rise up 200-300 yards above the surrounding steppe. Traditionally, Mongolian herders have called it the *Qaraqorum,* which means "Black Iron Mountain". Interestingly, many thousands of years later, Genghis Khan had set up his capital near this mountain. The Black Iron Mountains' ores provided ample material for building his army's weapons and armament. Genghis Khan's capital is often referred to by the same name: Qaraqorum. The Titans never found the Black Iron Mountains. If they had, surely, they would have set up shop in the area. There are no giant legends or "very tall people" stories that accompany the Black Iron Mountains. It appears that the Titans travels north, towards China, were confined to simple coastline migration or shoreline exploration. The Black Iron Mountains are over a thousand miles from the coastline.

The ancient Chinese spoke of “The turtle back people” and warriors dressed in “dragon scales”. These stories do come from the coastal regions. The Chinese legends don’t date back much more than a few thousand years and are rife with gross exaggerations of mythical monsters that serve as metaphors for the forces of nature. The Turtle of the Turtleback people is the literal giant turtle named Ao. His legs were sacrificed, and his giant shell was used to hold up the sky. However, later in the timeline, a giant people coming from Penglai island, in the Bohai sea, were rumored to be the descendants of Ao. These people were reported to be 10-20 feet tall. They would trade with fishermen and the local villages.

The Chinese also had dragons and hybridized creatures associated with the coastline stories, and most were, by definition, giant in size. The dragons are personified in the Chinese stories. The Dragon King had nine sons, one of them was Bixi, he had massive “scaled skin”. Or there was Kua Fu who had a giant stride and extremely tough skin, sometimes described as Draconic scales from sea origins. None of these giants were considered evil sea raiders, nor are they known as cannibals. The Chinese giant stories seem mostly focused on natural elements, attempting to explain the workings of weather or natural disasters. Some serve as a sort of creation myth. The American Titans do appear to have made an appearance in China, but certainly not in full force.

As the Pacific voyages seem to peter-out around Japan, the Arctic Ocean was ripe for travel. The coastlines would have been, at least partially clear of ice, certainly large ice flows still existed in the main body of the ocean itself. The numerous meltwater rivers running down to the Arctic Ocean could have been a constant source of frustration in foot travel along the coast. So, the most obvious answer is to move by ship. Another version of coastal migration. The inland sea route would have taken them along the coasts of what’s now called the Chukchi Sea and the East Siberian Sea. This coastline of Siberia leads them up to the base of the Verkhoyansk Mountains. The Verkhoyansk Mountains have, you guessed it, significant outcroppings of exposed copper and magnetite. The exposed veins of copper stand out against the vegetation as distinct veins of multiple different colors, like red and green patinas, in the exposed bedrock along the steep and rugged valleys and cliff faces. Both copper and magnetite are found exposed at Agylki and the Kolyma-Verkhoyansk tracts.

The Verkhoyansk Mountains also happen to have strong legends with very specific locations, associated with very tall, very strong, stone-skinned or armored, cannibalistic giants that set up shop in the mountains. The habitation site occupied by the stone-skinned giants directly overlies the exact spots where the specific mineral deposits are located. The old oral traditions that have been passed down for generations were recorded in the 1860-70’s by Ivan Khudyakov. The Yakut (aka: Saxa, Sakha, Odul or Olonko) people of the Verkhoyansk mountains called these giants the *Jel’begen, Yelbeghen, Baaryy-Uole*, or simply the Baaryy. They are described as “three times taller than a man” or “so tall that reindeer look like dogs beside them”. Some of the descriptions give

them one eye, some give them two eyes, and there's even some that give them the attribute of three eyes. The Baaryy lived in the Verkhoyansk, Tompo and Monsky ranges specifically. They were also known to be found nearby in the Upper Adcha, Derbeke and Toustakh river valleys. The Baaryy were well known to have iron or "stone-like skin". Some Yakut variations give them breastplates of black metal or "scales that arrows cannot pierce".

The cannibalism explained by the ancient Yakut epics is rather specific. The Baaryy would build stone enclosures for the Yakut peoples. They would drive them into the pens in same way that the locals claimed that they themselves would herd reindeer onto a trap. The Baaryy would then close them off with stones so large that several men could not move them. After the initial hunt, the Giants would celebrate by grabbing a few of the unfortunate Yakut and cooked them over a fire. The Baaryy would keep the rest of the captured Yakut in the stone pens and feed them to fatten them up like livestock. It is reported that occasionally they would pick one out and eat them raw them as a daily meal. An English translation of the original Sakha text states;

"They built great stone enclosures on the mountain slopes, walls of black rock piled without mortar. And inside those corrals they herded the Sakha people, the way we herd reindeer today - some to be eaten at once, roasted on iron spits. Others to left alive to grow fat for the winter feasts."

Another singer from the upper Adycha Valley described it even more graphically in the 1880s;

"The Baaryy-Uole drove whole families into a stone ring, closed it with a single boulder that no 10 men could move. And every morning a Baaryy would reach in with his copper-clawed hand, pull out one screaming person, and bite the head off like a man eats a ptarmigan."

A ptarmigan is a small to medium-sized game bird that is in the Grouse family of birds.

The local population did eventually rise up and challenge the dominance and wickedness of the Baaryy. This uprising was not a sudden or swift victory. The war against the Baaryy was a multi-generational conflict. Songs differ slightly in the telling of the exact time it took to finally beat the Baaryy. One song claims that was "seventy-seven summers" while another claims that the war lasted "nine times nine years" (81 years). Perhaps a better way of describing the timeline was; "From the time a baby is born until his grandchildren have children." Yet another Yakut song defines the timeline as "From the time of our grandfathers' grandfathers were little children until their grandsons grew old and gray, the Sakha fought the Baaryy without rest."

Another way of describing the length of time it took to defeat the Baaryy is recorded in technology. The locals have a unique way of detailing their own technological advancement through the phases of the war with the Baaryy. The first generation was one of discovery. The discovery of the stone corals and the Baaryy hunting techniques, accompanied by the first attempts to raid or attack the Baaryy and free the captured people. In this phase, they learned

that their weapons could do nothing to penetrate the armor worn by the Baaryy. The second generation of fighting turned to shamans for blessings, and the advent of blacksmiths to forge their own weapons made of an ore of some type. In this second generation of warfare, the Yakut started to have some success. They were finally able to kill some of the Baary through organized ambushes or attacks. The first giants to be killed were the younger or weaker giants. In this manner, the locals were able to thin out the Baaryys' numbers and reduce the numbers of their enemy. The Third generation of this war was against the surviving oldest and strongest of the Baaryy. After years of warfare, the Yakut had managed to isolate the last remaining older and stronger giants, but still didn't have enough firepower to finish them off. This is where a hero emerges. A large, battle hardened, and brave warrior named Nyurgun Bootur emerges from amongst the local ranks. Nyurgun Bootur "The Swift", also known as Er Sogotokh, a warrior who had lost one of his eyes in a previous battle, manages to have killed or assisted in the killing of all the lesser Baaryy, leaving one final Baaryy.

Nyurgun Bootur appears to also be a half-breed hero. His hybrid nature makes him a classic half-god, half-human, or demi-god. He has an alleged divine origin, but he lives, fights, loves, and interacts as a human warrior among his people. He marries a human woman and embodies superhuman traits while defending his kin. Once again, the cross-breeding of Titans and humans proves to produce a hero that ends up being the downfall of the Titans.

The final boss of the local chapter of Titans is known as Uordeekh Baaryy ("the highest Baaryy") or Kuokh Baaryy ("the Iron/copper Baaryy"). This final boss is reportedly dressed in full armor of copper and Iron. The story claims that our hero, Bootur, finds Uordeekh in a large alpine meadow, near one the old stone corrals (that still exists to this day). Bootur engages him in a one-on-one fight. They have a three-day running battle. Our hero, Bootur, is armed with a bow and arrows blessed by the local shamans and a metal-tipped spear of their latest military technological advancement. The Baaryys' primary weapon is a large metal club. Our hero scores several hits on the giant, but the Baaryy's blood is apparently especially good at clotting as "the blood knits itself together again". On the fourth day of the historic battle, Bootur manages to break some element of Uordeeks breastplate. The giant, now perceiving some vulnerability due to the breakdown of his armor, retreats to higher ground with Bootur in pursuit. Uordeekh reaches the top of a summit and appears to have an "I have the high ground" attitude. This king of the hill moment doesn't last long. As Uordeekh is screaming down at Bootur, whom had chased him up to the summit, he is struck by a massive bolt of lightning, that absolutely destroys him. Reportedly, the lightning hit directly on his broken breastplate and blew his body into several little bits. This ends the days, for the giants in the Verkhoyansk Mountains.

Locals today claim that they can still point out the exact places where these battles happened. And more specifically, where the last Baaryy died on a knife-edge summit. These spots are known

as *Kuoruk Jata* “Thunder-Stone places”. Small talismans of local stone are collected and kept as reminders and protective trinkets. Locals still avoid camping in the area because “The lightning power still sleeps inside”.

Continuing along the Siberian coast, we come to the next large deposits of copper and magnetite. The Ural Mountains have some of the largest deposits of these minerals, and they are equally rich with myths and legends of giants. However, all of the legends of giants in the Urals seem to be from a much later age, or they are so diluted with exaggeration and metaphors that they don’t tell a cohesive story. Most of the legends of giants that existed in the region have been borrowed, adapted, and retold so many times that the original message is lost. The only semi-cohesive story that exists in the Paleolithic Urals is the story of Yoma. The old Permian and Mari people told tales of Yoma (aka: Odo, “iron woman”) Yoma appeared to be a notorious unit commander of an army of very tall bearded men that wore metal armor. They came from the direction of the sunrise. Her “iron sons” had “shining fish-skin” and built stone boats or forts at strategic locations. They had a knowledge of forging with local metals that no other local tribe possessed yet. It was said that they would occasionally demand a “red tribute”, whether that was blood or if that was copper is not clear. The very tall, bearded warriors were said to march in formations and carried hooked axes, maces, and “lightning rods”. The stories start to devolve from there. Eventually, Yomo becomes a shapeshifting witch, and the metaphorical scare stories twist off in fantastical directions. However, I think we can see the first descriptions of military order in the Titans. We already have an expeditionary force in a uniform of sorts; now we have a proper hierarchy, fort construction, and men moving in formations. And it shouldn’t be overlooked that they appear to be a meritocracy. The commanders’ position of authority is based on merit not just size or gender. Further potential proof of this military order, is in the Kapova Cave located nearby in the Volga-Kama basin. The site and its work are Paleolithic, dated 19,000-14,000 years ago. The cave shows artwork featuring tall, possibly uniformed figures, moving in what may be a procession. They may be carrying spears or rods, and some researchers have suggested they have matching helmets or crests. Formations and uniforms, just as the original legend suggests. The cave sits on top of a magnetite vein. Local legend states the cave was called the “Thunder caves” where Yoma’s rods, called “storms” were once found. Recent scans (done in 2023) of the artwork show what may be interpreted to be “lightning bolt signs” near the troops painted on the wall. It’s my understanding that the latest scans are not available to the public. But some limited images have been released. Are these Paleo-pics of the Titans?

Before we continue down the coastal migration path, I'd like, to take a minute, to address this rampant theme of cannibalism with our American Titans. We are calling it cannibalism because we are identifying with these giants. We are using extreme personification in our collective understanding of these beings we consider "Very Tall People." I don't think the Titans were humans. They may have been humanoids; they may have shared most of our anatomy, albeit at scale. They certainly used their brains like a human, and not like the rest of the animal kingdom. These events took place in the late Paleolithic period. At the time, most of the humans were stone-age hunters and gatherers. I don't think the Titans considered us and them to be the same species. We were a smaller and insignificant species, different from them, lower on the food chain than them. We may have had some rudimentary smarts and some early tool usage, but we were a slave race, livestock, a food source, and an inferior animal to them. I don't think the Titans considered eating us as cannibalism, even if we do.

Norse Mythology

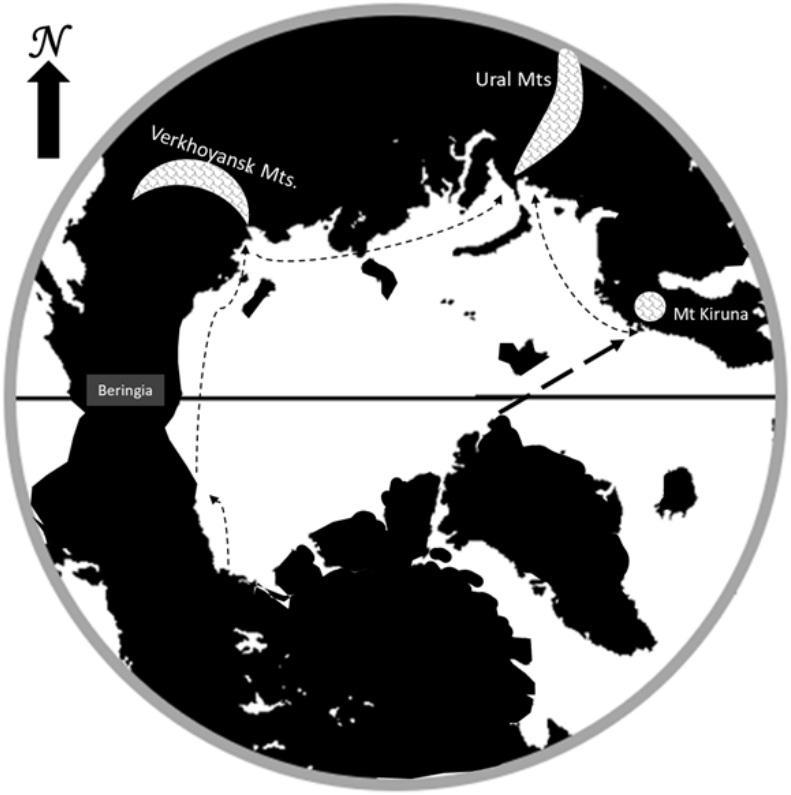
The Titans have now circumnavigated the entire coastline of the Arctic Ocean. The west side of the Arctic Ocean is locked in, with Beringia being above the water line. The only way out is in-between Greenland and Scandinavia. This takes our Ice Age giants to Sweden's Kiruna Mountain. Kiruna mountain happens to be one of Europe's greatest concentrations of copper, magnetite, and neodymium. Due to the rich deposits and the geology of the region, Kiruna mountain offers large open-air exposed deposits of magnetite, copper, and neodymium. A new copper rush or magnet rush is upon the Titans.

The ore-rich mountain of Kiruna is steep with giant lore and mythology. The local people before the Viking era were called the Sami. The Sami have extremely specific legends about giants in and around Mount Kiruna. The Sami called the giants the *Stallo*. The Stallo were very tall and very strong giants who occasionally eat the smaller local Sami. Once again, cannibalism comes into play with the giants. The Stallo were master blacksmiths and could fashion wonderful things out of the ores from the mountain.

It is about this time that the half-cycle event happens. The Hilina Pauli Event of 18,000 years ago. The lowlands on the Arctic Ocean coastline are wiped out. Any residual camps near the shores, would have been decimated by the flood. Any ice still floating around the center of the Arctic Ocean would have crashed into the coastline encampments and effectively scrubbed the landscape clean. Only the stories would survive. The high ground encampments like Mt. Kiruna would have been spared. As the floodwaters only go so high during the half cycle event. It's not like the world changing full, disaster cycle event that happens every 12,000 years. Suffice to say, that the water currents would have ended up circulating in a violent pattern after the initial surge and following slosh-back waves. Any remaining icebergs or large sheets of ice in the Arctic Ocean would cause extreme chaos on the surrounding shorelines. The homeland still exists, but re-construction is required, and resources are starting to flow overseas with greater regularity. Home base is still home base, but Scandinavia is the new hotness.

The discovery, in Scandinavia, of so much material gathered together in one place, much like at their home, would have been a windfall for the traveling Titans. New and shorter routes would have been devised or attempted. This means they would have to cross the open waters of the Barents Sea from Greenland to Scandinavia. Coastline hopping would take too long, to make it all the way there and then all the way back again. New expertise in open water navigation would be required. This would naturally be a catalyst for bigger and better ships. This also means that the Russian coastline would become more of a backwater to the new and rich finds in Scandinavia.

The shortcut to Scandinavia becomes the main artery of travel. The Ural Mountains, in present-day Russia, are still rich with the desired mineral deposits, and they will continue to be exploited. But now the troop deployment to the Urals is initiated from the Scandinavian side, not from the Alaskan side.



By creating a shortcut from the Americas to Europe, the old territories of the Arctic Ocean coastline are no longer a necessary stop for the Titans. The stories start to fade; the advancements don't appear in the folklore of the locals of the region. The Titans become a part of their past and are reduced to legends in pre-Russian history.

The Titans were in Scandinavia for a very long time. The epic Sagas of giants in Scandinavia seem to continue up until the next disaster cycle event. That's another 6,000 years.

The half-cycle event (The Heinrich Event known as the Halina Pali) may have paused the migration pattern for a while. The pause is cause for re-organization. The old camps are gone. Whatever ports or coastline settlements that may have existed at one time would certainly all have been destroyed by the Halina-Pali event. The crushing ice, sloshing waters, tsunamis, liquefaction of coastlines, and rapid erosion effects of back-washing flood waters would wipe the coastlines clean. The old route and its camps are gone. The rebuilding of the old route would be costly, time-consuming, and now unnecessary.

The new route is more efficient. The trip to Scandinavia doesn't take as long. After re-organization the Titans can begin to increase their numbers. The new outpost seems to get a large bump in troop strength. Deployments from the home base in North America became easier and more frequent.

Not only are the Titans affected by this event, but the Sami that live along the coastlines were also hit hard by the floodwaters. This provides a window for human migration. The old cultures give way to the new cultures, and only the old stories survive.

The Sami of Scandinavia were followed by the Norse. The Norse were the ancestors of the Vikings. While the Sami called them the Stallo, the Norse called them the *Jötunn*. Viking sagas tell tales of the Jötunn or the "Frost Giants" whom, like the Stallo, had great expertise in metallurgy, forging weapons out of the ores found in the mountain.

It is impossible to talk about giants in Scandinavia without talking about Odin. The drama between Odin, of the Æsir, and the Jötunn or Frost Giants, is central to Norse mythology and history. This saga, of epic proportions, provides vast amounts of material for discussions about giants. However, it presents its own problems as well. The *Poetic Edda* and *Prose Edda,* weren't comprised until the 13th century. These Eddas take many, many oral traditions and clump them together. This shakes up attempts of re-creating a functioning timeline. The conflict between the Æsir and the Jötunn is not measured in years, but is considered cyclical and is not bound by linear time. I will use the sagas and tales of technology, combined with the local mineral deposits, and lay out their involvement in the Titans' technological evolution.

Scandinavian Sex

One theme that shows up in the various legends about giants is sex. The Titans have long been known to abscond with women and children for the purposes of food, ever since we've started tracking them. But sex becomes a recurring issue. The downfall of the Titans is perpetually connected to half-breeds fighting against the potentially cannibalistic groups that initially took over the area. The Titans can't seem to "keep it in their pants".

The women of man have become objects of desire for the Titans. Not only is Freya, the Vanir princess, often sought after by the Jötunn, but the concept of half-breeds becomes more of an issue. Eventually, the half-breed giant becomes a human side hero. In Scandinavia, the half-breed giants find themselves on one side of the fight, the human side. However, if Titans can successfully breed with a *homosapien* woman, why isn't there any genealogical evidence today? My guess is in the chromosome count. Like a horse mating with a donkey the result is a hybrid infertility. Hybrid infertility or hybrid sterility often follows Haldane's rule. The trick is in the specific chromosome count of the interbreeding species. If one species has a different number of chromosomes than the other, the resulting offspring will have an odd number of

chromosomes, i.e. Horses have 64 chromosomes, donkeys have 62 chromosomes, the resulting mule has 63 chromosomes and usually ends up being infertile or sterile. Other examples are the Liger; a tiger and lion combo, a Zorse; a horse-zebra combo, a Beefalo: a buffalo and cow combo, and the Cama; a camel and llama combo. Humans have 46 chromosomes organized into 23 pairs. I'm guessing that Titans have a different number.

Photo of a Young Zorse (1922)

A Pair of Ligers (photo courtesy of Camphora)

Any rule is made to be broken. There are a handful of documented cases (60-70 since the 1500's) of female mules producing offspring. These are usually touted as "miracle births" or "impossible" births, but they can, on rare occasion, happen. In Norse Mythology there is a goodly number of half-breeds. Against the odds, some of these hybrids do sire children. When a female human gives birth to a hybrid child, the child may grow up, big and strong, but then doesn't have children of their own, thus proving infertility. When it's a female giant that bears the children, they seem to be able to reproduce for one more generation, then it too seems to prove itself sterile. This is why we don't we see hybrids today. This is why all the genetic evidence is gone. With the rarity of these miracle births, there is an unlikeliness of ever passing down any genetic markers. The entire episode of interbreeding would have been hidden from history, at least genetically. It appears that Haldane's rule of counting chromosomes still rules the day.

Fluorite

Sex was not the only thing that happened in Scandinavia. The first use of fluorite in the forge takes place here. This would prove to be the first real technological advancement at the forge. Everything else that follows from the forge, is because of Fluorite. The Titan culture has been working with copper and magnetite for a very long time. First, simply collecting it, hammering it out into shape, hanging it in rows on a cloak, tying it to a stick, typical Stone Age technology. The addition, wittingly or unwittingly, of fluorite to the fires of the forge would prove to be a game changer. By adding fluorite to a fire, a forge will run a hotter, cleaner, and be more efficient. Fluorite shows up in the coastal migration pattern around the Ural Mountains, the previous stop,

and is most abundant at the Mt Kiruna site. Fluorite is laughably easy to harvest; it runs in thick veins next to both copper and magnetite. Fluorite can be so plentiful that it practically pollutes the site and gets in the way. In some places, it's so abundant that miners report tripping over large chunks of fluorite on the floor while trying to get to their desired material. You don't need to crush, grind, float or roast anything. You simply grab a fist-sized chunk of fluorite and chuck it into the furnace. While fluorite starts to melt at 1360 degrees Celsius, it works as a flux at much lower temperatures. It can drop the melting point of the charge by 200-300 degrees. It melts the slag runny so metals separate cleanly. It allows one to smelt and re-melt copper with half the fuel in the forge. It works with wet wood and poor draft. It effectively turns every forge into a super-forge with almost no extra effort. Now we have them combining base minerals together in a forge and casting or creating specific tools and armor pieces. The forge temperatures would need to be very hot to work these different materials together. And for an added bonus, it looks cool, the addition of fluorite makes the fire look eerie violet and green, as fluorite glows green under heat.

The addition of fluorite into the forge was probably a "happy accident". Someone just threw a piece of fluorite into the fire. For a people that make a living working with metals, the accidental addition of an element in their fires and the changes that it incurs would not go unnoticed. A simple mistake, mixed with obvious color changes in the fire that would draw, even the simplest-minded smith, to experiment with the process. A change in colors, the augmentation of additional heat, and need for less fuel, would have easily been noticed.

The hotter forge temps would absolutely affect the stone that the forge is made of. This is most likely the beginning of vitrification. The unusually hot, fluorite-induced, green fires, despite the conditions, would start to vitrify the very stones of the forge itself. All the Titans would have to do is to scale up the process, and they could then vitrify the walls of their defenses or fortresses. While this was done in Scandinavia, vitrification of hilltop forts was better studied and recorded in nearby Scotland.

Hematite

It is in Scandinavia that I believe another new discovery was made. It appears that someone used hematite in the construction of a forge or a firepit of some kind. Hematite has been up to this point just another rock that accompanies the rock formations and outcroppings of the desired minerals that the Titans have been targeting for centuries. However, when hematite is burned at certain high temperatures, it changes into magnetite. If someone, by chance, burned the stone hematite, with a fire enhanced with fluorite, it can change hematite into magnetite. The "home rock", one of the minerals that has driven, guided, and shaped their worldview and propelled the Titans forward on the global stage, is now able to be mass-produced by the Titans, at will, in their own forges. I wonder if they were able to configure the alignment of the magnetic particles? Could they have done something creative and wild with the magnetic properties of that rock?

Their understanding of magnetite may very well have exceeded our own understanding of the stone. It was, after all, the Stone Age, and this technology rocked.

Military Order

The state of affairs between the Jötunn and the early Norse is in constant flux. Peace agreements are made and broken. Skirmishes and battles are fairly common between them. Back-door deals are bartered, then deceit comes into play, and the deals fall through, usually with the Norse being the victors. Through all of this, the Norse are emboldened, but victory is never easy. The Norse wisely became more organized. The military type of organization is the only way to not just survive but defend your territory from a very large, very tall, giant population of hammer-wielding, armored, cannibals that want your women. With Odin organizing his forces in such a way, the Jötunn take notice. They have to adapt or lose their grip on the most prosperous find in their adventures, since they left home. The Titans have to organize too.

The military-like organization of the Titans means reinforcements need to arrive and fill the ranks. A windfall find of Mt. Kiruna's mineral richness would need to be defended. This influx of troops would need to be armed, and the forges would need to go into overtime. This is where the next advancement in technology takes place.

Apatite

The rush to fill the orders, causes apatite to get in the mix. This is another example of a "happy accident" leading to the first alloy being created. Apatite is another "junk" mineral that inhabits the same veins as copper and magnetite. Apatite is a phosphate mineral commonly associated with iron oxide systems. It co-occurs with magnetite and copper deposits. The Mt. Kiruna deposit at Per Geijer has up to 7 times the normal phosphorus grade in its apatite. When phosphorus is accidently added to copper, while in a rush, the resulting metal is a true alloy. Today its known as "P-Bronze". I believe that in the rush to supply the influx of new Titan troops some of the "junk" apatite got mixed in with the copper in the forge. The result became the new secret recipe for the Titans. It's a better form of what they were already using. P-bronze has unique qualities all its own. P-bronze is somewhat springy and is more wear resistant. P-bronze is harder and can better hold an edge. The armor made of p-bronze would last longer. The weapons made of p-bronze would work better. It's the beginning of a bronze age, 10,000-12,000 years before the widely recognized human one.

Weapons

With the invention of p-bronze, a new arms race is afoot. Weapons with special characteristics are being forged. The Æsir definitely kept tabs on what was happening in the forges. Most likely the giant-human half-breeds invented the technology, and the giants may have attempted to copy them. The first weapon of this arms race, on the Æsir side, may have been Heimdall's sword.

Heimdall, a half-breed himself and the watchman of the gods, carried a sword named *Höfundr*. Details on Höfundr are scant, but the weapon was special enough to earn a name in legend. This was probably an early p-bronze sword, one of the first of its kind to be used against the Titans. P-bronze swords have another interesting quality; they can be made to "sing". When a sword made from p-bronze is drawn from a scabbard, it rings with a harmonic tone that is unlike a base metal sword being drawn. So, we can assume that Höfundr was stronger, sharper, more durable, and it rang when drawn.

Odin's spear was called *Gungnir* it was forged by the sons of Ivaldi. Gungnir was reportedly imbued with special properties. It's not really considered a lightning weapon but is occasionally referred to as such. This spear was probably forged of copper and magnetite as it had some form of electrical or magnetic properties. The copper may have been smelted with apatite, making it a p-bronze weapon as well. Odin also wore a ring forged by Brokkr and Eitri. The ring was named *Draupnir*. The rings' exact purpose was not known, other than it allegedly had the ability to multiply, making it a sign of wealth. According to legend, there are several copies of this ring owned by Odin, as the ring allegedly self-replicates.

Brokkr and Eitri were then enlisted to forge Thors Hammer, *Mjölnir*. Mjölnir was reported to never miss its target when thrown, return to the thrower and to be able to summon lightning. In order to wield Mjölnir, Thor had to wear Iron gloves named *Járngreipr*. The gloves assisted in the gripping of the hammers' uncharacteristically short grip. The Járngreipr shielded the user from heat incurred by the lightning Mjölnir attracted and assisted in "the catch" when the hammer flies back after a throw. Thor also wore a special brace or belt named *Megingjörð*. This belt reportedly doubled Thor's strength. Mjölnir and Jerngreipr, used together as one weapon system, appear to be later additions to the arms race, as it has enhanced properties beyond that of Odin's spear Gungnir.

It was from the Ores of Mt Kiruna that Brokkr and Eitri forged Thor's hammer, Mjölnir. Allegedly, Thor's hammer was forged of magnetite and some other mystery material, effectively a secret recipe, and it was forged in a special fire, by notable skilled craftsmen. These weapons appear to be the result of creative smelting and secret recipes. We can be relatively sure they incorporated magnetite in the construction of Járngreipr, Gungnir, and Mjölnir. The magnetite is a strong attractor of lightning. Afterall, Thor was the God of Thunder and could summon lightning with his hammer.

I find it interesting that both Odin and Thor had what may have been binary weapon systems. The Eddas specifically state that Mjölnir could only be used in combination with Jerngreipr. I'm assuming that Odin's rings accompany his spear. Especially because there were at least 8 of them, one for each finger, and they were forged by the team that was later enlisted to forge the hammer and glove combo. Gungnir and Druapnir, the spear and rings, were not the first-generation of this

weapon system type. Thor's hammer and gloves came later and were more powerful. This was the third-generation system.

Mjölnir pendant (image curtesy of Nordisk familjebok, 1876)

The first generation of this technology was used by the Jötunn. They had what were called "Thunder-Rocks." The Thunder-Rocks appear to be some sort of plasma discharge grenades. The rocks were forged with the purpose of being hurled at a target, and then an exploding discharge occurs upon impact. We can be relatively sure that they didn't use chemical combinations to create a fast burn, like modern-day explosives. They were pioneers in magnetics and the forging of raw materials. So, the first-generation of static discharge plasma weapons was most likely the Thunder-Rocks that had to be thrown a safe distance from the user and activated upon impact. Interestingly, if you make a thin strip of p-bronze and stroke it repeatedly with a lodestone (like magnetite), it can produce visible sparks like a fire starter on steroids. This is called the triboelectric + electromagnetic effect. It's an interesting way to make sparks or small-scale lightning. The Thunder-Rocks were Giant Plasma Grenades.

It wasn't until Brokkr and Eitri implemented some sort of binary system that served as a ground, safety, or trigger device for Odin and Thor. The rings and gloves would have been this ground, insulation, or triggering device that allowed them to use the weapon system with greater accuracy and repeatability. The thunder rocks came first, probably pioneered and forged by the sons of Ivaldi. A similar technology was then used in the production of Odins spear Gungnir. Gungnir was second-generation and could be recovered and reused. When Brokkr and Eitri improved the technology and forged Mjölnir they implemented the gloves, Járngreipr, and created the third generation of this weapon system, making it a true binary system. It was after this success of Thor's hammer that Brokkr and Eitri were then recruited to retro-fit Odins spear, Gungnir, with the rings, Draupniras, to serve as the complementary component in the binary system. The forge masters effectively upgraded the second-generation system to a third-generation system, giving the Æsir the edge in the arms race leading up to Ragnarök.

We can only speculate what other techniques or special properties these weapons and tools may have had. Without having a sample of these weapons to reverse engineer, we are shooting in the dark, with only the legends and our rudimentary knowledge of their work with copper, magnetite, and other minerals to guide us. Did the forging specialists learn to fold the metal over and over again like the later samurai sword craftsmen? Would folding magnetic metals increase the magnetic strength of a tool? Did they figure out how to orient the magnetic particles in the magnetite with a form of magnetic quench? Was there a blending of bronze and magnetite to create a new alloy or to form a new type of working tool, mechanism, or a more effective weapon? The fluorite fires we've figured out. The addition of apatite to copper, we've figured out. What other tricks they learned and embedded in these weapons we may never know. This is the result of thousands of years of working with a particular medium, in this case, magnetite and copper, and advancing the science of your profession. One thing is for certain: they forged weapons that were well beyond their time. Weapons so special that they still live in legends today. Special tools get special names.

Mead and Ale

We have Scandinavia to thank for the first recorded brewing of alcohol. In the late Paleolithic, while the Jötunn were intermittently fighting with the Æsir, Freya is reported to have gone to the Giantess Hyndia and asked for the *Minnisol,* which translates to "Ale of Remembrance". This ale serves as a mnemonic aid and can significantly enhances one's ability to recall. We also have the *Odrorir,* which means the Mead of Poetry. The Odrorir is known for boasting one's creativity. Odin himself went to some trouble to get a hold of some. So, we have brewing going on in Scandinavia 18,000-12,000 years ago. Ale and mead, or *Minnisol* and *Odrorir*, respectively. Special tools get special names.

Ships and Navigation

The Titans certainly used boats to initiate coastal migration to find Scandinavia. We are fairly certain that they then used ships to cross the Barents Sea to shortcut the trip to Scandinavia. The crossing of the open seas would require advancements in ship construction. Nautical navigation is also required. Since the "home rock" of the Titans is magnetite, we can reasonably assume that a magnetic compass of some sort was used.

We also have an amphibious assault by the Jötunn into the last battle. The Titans planned a two-prong attack against Odin's stronghold of Asgard. The fire giants attacked from the land by rushing the Bifrost Bridge with combined arms of cavalry and infantry. Loki and the frost giants launched their assault from the sea simultaneously. The flagship vessel of the amphibious assault was called Naglfar, which translates to Nail-Fairer. We even know the ships captain's name. The Naglfar was piloted by the giant Hrymr. The Naglfar was reportedly the largest ship ever built to

date. Given the size of the Jötunn force, one ship would not have been enough to transport an entire army. Other ships were surely involved, but only the flagship Naglfar is named in the legends. Special tools get special names.

K9 Corps

In the late Paleolithic period, Scandinavia was not covered in ice. Much of the glacial ice had melted due to the more equatorial position of Scandinavia held at the time. In fact, Scandinavia was much like parts of North America at the time. This is evident by the wildlife that existed there at the time. Scandinavia was host to Woolly Mammoths (*Mammuthus primigenius*), which required hundreds of pounds of vegetation every day to survive. Scandinavia also had the Woolly Rhinoceros (*Coelodonta antiquitatis*), Irish Elk (*Megaloceros giganteus),* a Cave Bear (*Ursus spelaeus*), the Steppe Bison (*Bison priscus*), and a bountiful number of Reindeer (*Rangifer terandus*). They even had a large, robust Pleistocene form of grey wolves, good ole *Canis lupus*. What they did not have, that North America did have, was the Dire Wolf (*Canis dirus*).

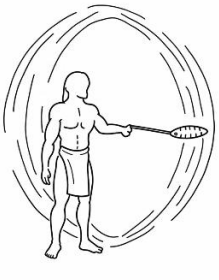
The American dire wolf is much larger than the grey wolf. The introduction of this animal would have been shocking to the locals. Norse mythology has a beast like this. It was called Fenrir. Fenrir was allegedly the "son" of Loki. It was Fenrir that killed Odin, the all-father himself, in the last battle leading into the onset of Ragnarök. Ironically, Odin has a pair of grey wolves as pets, but it seems that they were not trained as working dogs and were not employed in battle. Had Fenrir been the only canine in this fight, I would have been led to believe that it too, was simply a pet. An imported Dire wolf from North America. A curiosity that was brought over and ended up serving a larger purpose. But Fenrir is not the only one. The Titans also had Garm. Garm was admittedly smaller than Fenrir, but a ruthless canine just the same. This animal was also unleashed on the battlefield, notably killing Tyr, a son of Odin. It seems that the Titans have started to develop a canine corps. Ruthless war dogs have a terrible effect on the battlefield. This has been done with great effect in more modern times.

When Hernan Cortés and his conquistadors conquered the Aztec empire, in the years 1519 through 1521, he used (among other things) a large pack of war dogs. Those dogs had seen action before during conflicts in Europe. The surviving Aztecs told stories about the Spanish war dogs that match many older myths. The dogs are always reported as bigger than they really are, they

are vicious beyond comprehension, they have glowing eyes, and terrible howls. Sometimes they even have multiple heads. It was reported that the "Aztecs feared 10 Spaniards with 1 dog more than they feared 100 Spaniards without one". The use of K9s in battle can have a devastating psychological effect on the enemy. It seems that the frost giants figured that out, if only at the last battle. The Titans invented a K9 corps.

Comms

The Titans have been using rudimentary communications since they first left home. The bullroarer has been in Scandinavia since the onset of the Titans in this land. The Sami claimed that the Stallo already had an abnormally loud speaking voice, and a shout could knock a man out. However, A Sami man named Bieggolmal managed to get his hands on a Stallo Bullroarer made from reindeer antler. It was said that when he swings it, the sound becomes the north wind and drives people insane or freezes the north seas. He earned himself the nickname of the Wind Man.



In northern Norway, there is a legend of a mountain troll whose mighty bellow could be heard all the way down by the coast. Fishermen would plan their trips by the sound; if you heard three roars the night before, you stayed in the harbor. In central Sweden, there are direct stories about the Jotun having bullroarers, sometimes called "never-lur". It's a long strip of wood or antler that's tied to the end of a rope, just like the ones found in North America. It is said to be the way that Jotun and trolls communicate across valleys and inside the mountains. When a human hears the sound of a never-lur at night, it sounds like a long, rising-then-falling moan or roar. The sound seems to be coming from everywhere at once. This account of Bullroarers being used is found in Jamtland, Harjedalen, and Dalarna.

In Viking-age lore, there are also "lur". Lur are horns made from wood or curved brass. The Lur were said to be made by giants, as the original horns were so big that only a giant had enough lung power to successfully blow them. These horns are used in pairs that curve like an elephant's trunk or an "S" shape. They are said to produce a deep, incredibly loud roar that sounds like a foghorn. Heimdall, the watchman and half-breed watcher of the gods, was once gifted the *Gjallarhorn*, a special horn or lur to warn the kingdom of the impending doom from the coming

of Ragnarök. This indicates the invention of wind instruments, forged of metal. Another special tool with a special name.

All of these inventions and technological advancements didn't happen overnight. This culmination of events takes place over 6,000 years. From the Scandinavian start, when the Titans first discovered copper and magnetite in exposed outcroppings, to when the Stallo were first reported by the Sami, until the final battle, between the Æsir and the Jötunn, on the end of days, at the onset of Ragnarök, is over 6,000 years.

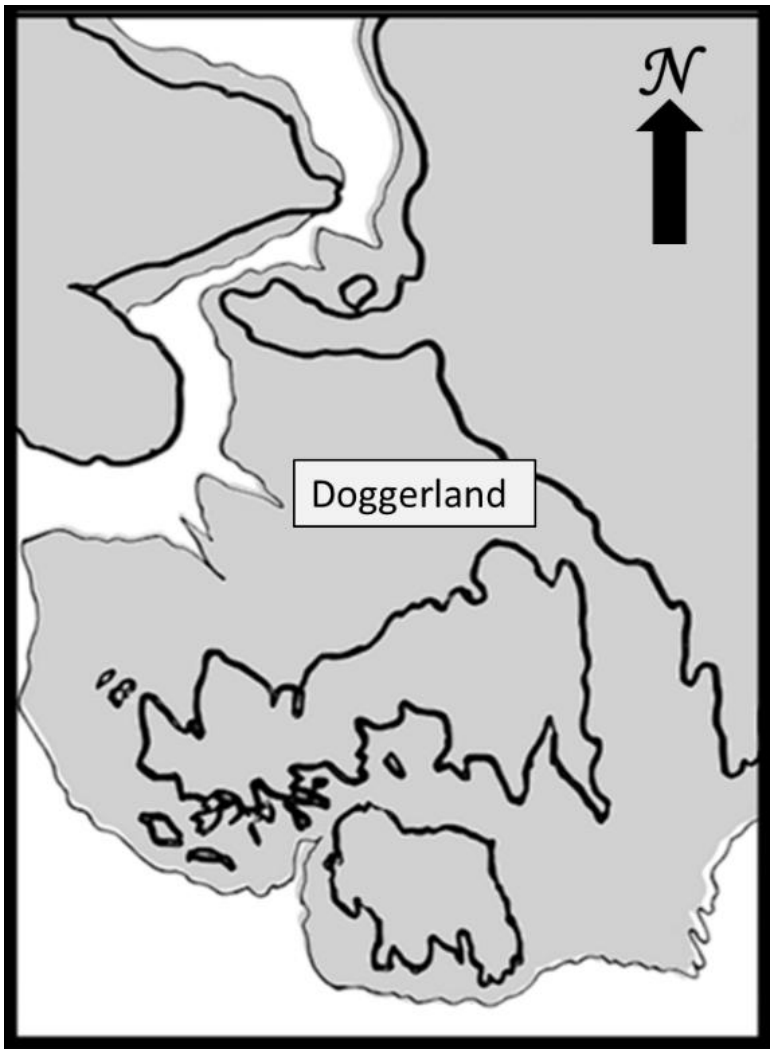
Ragnarök is synonymous with the Younger Dryas event, which is synonymous with the Gothenburg excursion. They are the same event, by different names. Ragnarök is described in the Poetic and Prose Eddas in specific terms. The initial sign is the Fimbulwinter. The Fimbulwinter is a winter that lasts 3 years with no break. No spring, summer, or fall for 3 years, a sudden freeze or temperature drop. The Filbulwinter causes crop failure and results in starvation and widespread famine. This is accompanied by the beaching of various marine life, most likely a result of a magnetic disturbance. A magnetic pole flip causes the disorientation of magnetoreceptive species. The next sign is the clown-world behavior in humans. People begin losing common sense, doubling down on bad decisions. Social and moral decay, kinship infighting, and the breaking of family ties become commonplace. The Eddas specifically state that great battles will be fought all over the world. This is, no doubt, the result of human neurochemistry reacting poorly to the hypo-magnetic environment of a pole flip scenario. The sun goes dark, "the sun will vanish as if eaten". The winds are reported as cruel. The snow falls as if "driving from everywhere". Treacherous weather is accompanied by a massive uptick in earthquakes. The earthquakes will be so great that "all bonds and shackles and fetters will be destroyed". The stars disappear; ash falls from the sky. There are world-engulfing fires. As the fire giant Sutr advances with his fire sword and sets the world ablaze. Then the tsunamis hit. The oceans reportedly swell and inundate the world. The Midgard serpent thrashes in the seas, and the oceans of the world violently destroy everything near the shores. Ragnarök is the 12,000-year disaster cycle. Even the Æsir knew it was cyclical. I wonder if the Titans remembered.

Like the Native Americans, the original sites attributed to the giants are officially/unofficially sacred sites. Some in Sweden today still pay homage to the giants of legend. The entrance to an ancient mine in Mount Kiruna is called *Jattegruvan* which translates to "Giants Mine". Locals still occasionally leave offerings near the entrances to the mines. And legend speaks of not making too much noise, as you may wake the sleeping giants that are still in the mountain.

The advancements made in Scandinavia spread-out to other Titan expeditions. During the Titans' long stay in Scandinavia, we see many of the industrial advancements made there begin to appear in further and further outposts established by the continued Titan expansion.

Doggerland

Continuing the coastal migration pattern would have taken the American Titans from Scandinavia to Doggerland. Doggerland was a large peninsula that extended off northern Europe. If the Titans hugged the coastline along Scandinavia, through the North Denmark sea, they would have to round the Doggerland Peninsula before continuing along the European coastline towards the Bay of Biscay and the Iberian Peninsula. Doggerland was eventually partially submerged by rising sea levels after the Younger Dryas event, or the Gothenburg geomagnetic excursion. Doggerland is a paleolithic land mass. Today, in the Neolithic period, it's; England, Scotland, and Ireland, islands that are cut off from the European continent by the English Channel.



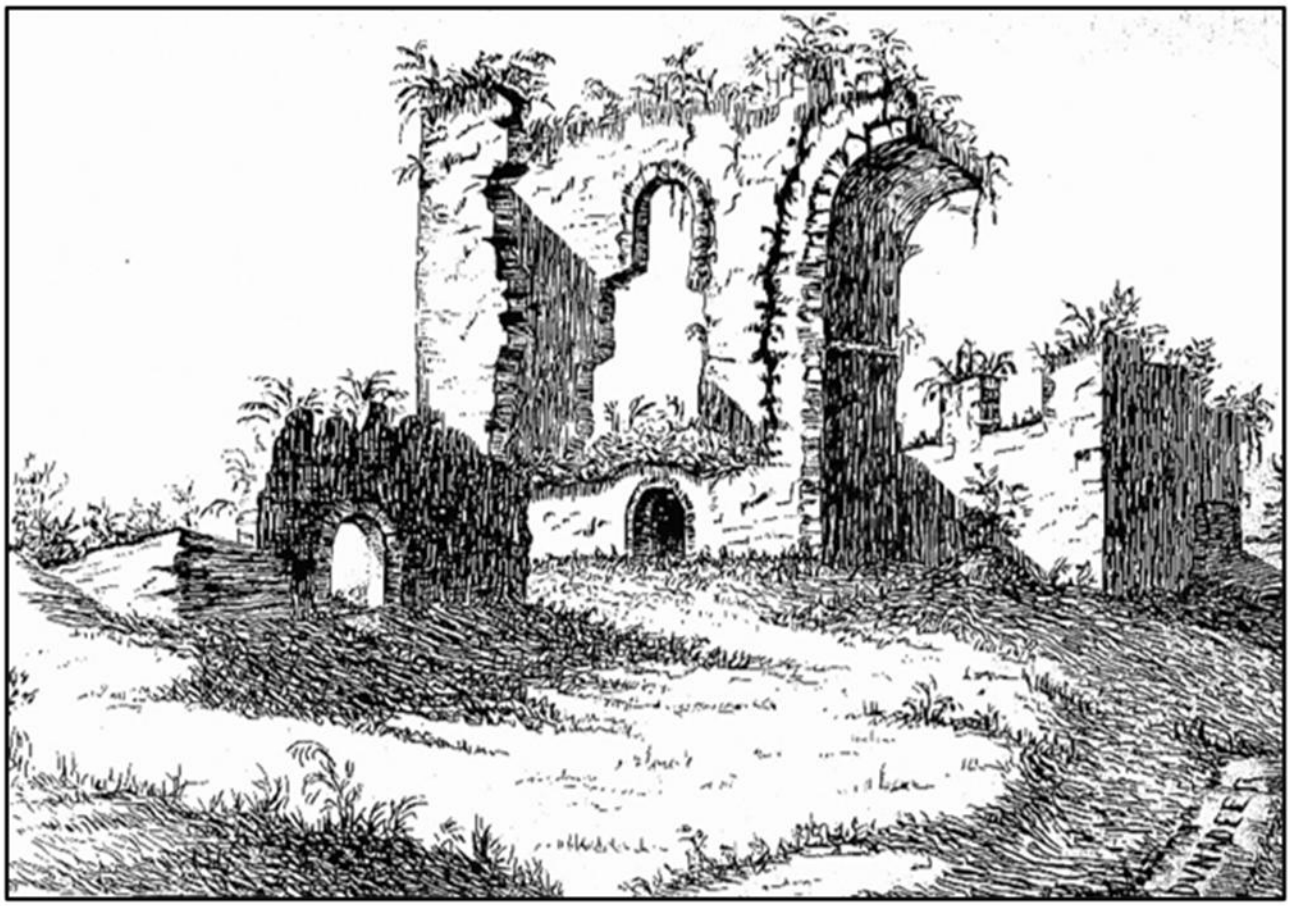
Before I dive into the giant legends of the British Isles, I'd like to address a theme I've noticed during my research. The more advanced a society has become, the more metaphorically it re-tells its ancient stories. The more "modern" the society, the more childlike its legends become. It's like a game of "telephone", the more connections the message has to pass through, the more

exaggerated, extreme, or twisted the message becomes. The more the original tale moves from connection to connection, to connection, the farther away from the original message the result is. What results, seems to be, that with more isolated communities like the people of the Okhotsk Sea, the message and its details are vividly clear. But as you move along the coast to mainland Japan and China, the message starts to dilute into whimsical stories about holding up the sky or a god's wrath in the form of a storm. The people of the more remote areas of northern Russia tell detailed and graphic accounts of the past, while the British Isles tell stories about how the landscape was created or why areas are flooded. As a researcher, that's trying to follow the breadcrumbs left by an antediluvian society, this is ultimately frustrating. So, as stories start to lose their authenticity, become less based, and start sounding more like fantasy and metaphorical embellishment, I am forced to be more brief in my description of them. Tragically, with a few notable exceptions, the more modern the society, the duller the memory.

The British Isles are absolutely teaming with giant stories. Many of the isles giant legends are told to explain geological processes. The giants are responsible for the formation of the landscape and the flooding of the Lochs. Today, we understand the natural processes that cause these things, but in the retelling of ancient Celtic lore, the giants were often used to explain more natural things away. It was difficult to screen through the plethora of legends while researching this book. I have cherry-picked the ones that I think best fit the coastal migration patterns and Modus Operandi (MO) of the American Titans. Again, the best indicator that we are still on track, is by following the mineral deposits.

Scotland

Gairloch Wester Ross in northwestern Scotland, is the home of *Greag an Fhomhair* or "Rock of the Giant". This area sits on top of the Kerrysdale magnetite-schist outcropping. Fhomhair was known to occasionally demand a tribute from the locals, and if they refused to pay the giant whatever he was demanding, he would roast and eat a local clansman as punishment. The common story is that the angry Fhomhair hurled a massive boulder across the glen in a feud. This massive stone still sits near the village of Gairloch today. What I think is more interesting is the 4 nearby prehistoric hilltop forts, which are constructed of vitrified stone. Vitrified stone is stone that was apparently exposed to so much heat that the stones start to melt or fuse together. The forts are Rahoy near Morvern, with a vitrified wall that fused into a sort of black glass. Dun an Fhamhair near Loch Alsh, it is literally called the "Fort of the Giant". It shows signs of extreme vitrification. Knock Farril near Srtathpeffer, which may be the best studied vitrified fort in Scotland. And, Craig Phadrig near Inverness, which has vitrified ramparts that can be seen from miles away.

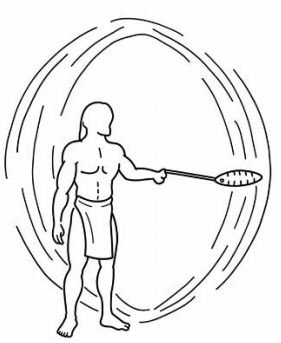


Picture of Dunadeer drawn by William Henry Gregg (1910)

This would have been a new technology in the area. The stone used in these hilltop forts was all Quartz-rich rocks. It would require a sustained temperature of over 1,200 degrees Celsius for hours on end, maybe even days at a time, to achieve the results seen on these vitrified forts. The locally available trees would only reach a temperature of 850 degrees Celsius by themselves. Researchers have shown that they can create the necessary increase in heat and the melting quartz effect with a built-up scaffolding of lumber and several tons of additional lumber ready to throw on the fire. By using the rock walls as a sort of back-up, reflector wall, or chimney, they were able to replicate vitrified sections of stone walls into the same effect that was seen on these forts. It should also be known that the local area was; at one time, very heavily wooded and would have been able to provide the necessary amounts of fuel for these colossal fires. This technique of vitrification of stone forts was also found in; Denmark and Southern Sweden, Northern and Central France, Western Germany and Bohemia, Portugal, and in Moravia or the Czech Republic. All of these sites are only dated to 2,500-3,500 years ago. So, one may assume case closed, humans did it. Humans are able to replicate it now. While academics seem to be satisfied that they were able to replicate the vitrification process themselves, albeit with chainsaws and modern heavy equipment. The local legend is that the giants first built the forts.

Vitrified forts are commonly considered the giants' “Fireworks”. If the Titans used a fluorite augmented fire, the process may have been more efficient and done without stripping the entire landscape of its forest to fuel such a hot fire. It should be noted that this Scottish site sits on top of the Lewisian Belt. An area rich with copper and magnetite.

The bullroarers make their appearance in Scotland. In Scotland, under the name “Thunder-spells” or “Thunder-Bolt” and are still made today by farmers. The modern-day bullroarer is made from elder wood or a cow’s rib. The bullroarer is swung when a thunderstorm is approaching. It is used to “turn the storm” or stop lightning strikes. If the thunder answers back with three loud claps, the charm worked. It has also been reported as a herding trick, if your cows stray into a “fairy ring” or get lost in a heavy mist, this sound can guide them home. In Shetland and Orkney they are called “tjolder” or “thunder-whistles”.



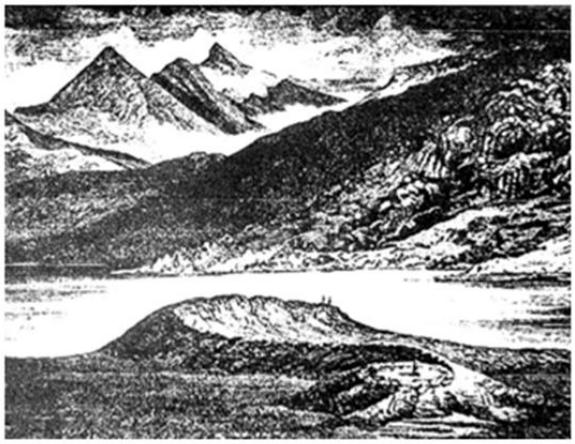
Further south down the coast, just adjacent to Ireland's “Giant's Causeway”, you’ll find Kilmartin Glen and Loch Nell in the Argyll region of Scotland. The many giant stories in the Argyll region are rooted in Celtic and Gaelic oral traditions. *Cailleach Bheinn a’ Bhric* or “the Hag of Bheinn a’ Bhrice”, was another female giant that ruled over an area. Cailleach reportedly had all white hair and wore a coat of armor plates. In a 19th-century Gaelic telling recorded by John Dewar, “she wore a cloak of stone plates that rang like iron when she walked.” In one Kilmarten Glen version, “The Cailleach’s body was armoured in the very rocks of Cruachan, so no spear could pierce her.” Cailleach was also known to eat people. It was said that she would grab children and make a “youth broth”. It seems she did this primarily in winter. The stories of Cailleachs cannibalism seem to have turned into a warning for children not to wander too far up the hills by themselves. Cailleachs primary crime was apparently releasing a flood into a glen and creating Loch Awe. Cailleachs specific area is not on an exposed outcropping of copper or magnetite. It is, however, relatively close to sites that contain specific minerals, namely copper and magnetite.

Other cannibalistic giants in the Argyll area are *Am Bodach-Roc*, “The old man with the cloak” whom feed mostly on sailors. The Men of the Minch, sometimes described as the sea-giants. They too went after sailors. The giant of Ben Loyal in Sutherland. The great giant of Glen Etive, who lived near Glencoe. He was rumored to have eaten an entire wedding party at one time.

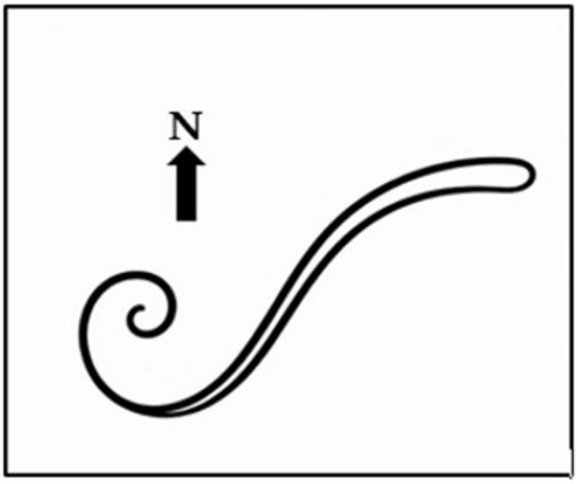
Other giants that were noted to wear an early form of armor are the Fingals Warriors from the Staffa and the Treshnish Isles. The “Stone-Coated Giant” of Loch Nell was the guardian of the snake effigy mound located at Loch Nell. It was said that the “Formorian in a coat of black stone” could only be defeated when a hero found a gap in the armor under the armpit.

The Fomorians were “the Big Old Men”. They were a mysterious earlier race of giants that existed on the land before, or they are “the people before the Gael”. This includes Fromhair, who threw the massive boulder across the glen near Gairloch. Other stone monuments from the Fomorians include the Shetland stone circles and some of the Kilmartin stones that are allegedly the “Graves of the big men who ate the little people”. Scotland is loaded with stories of an older, bigger, stronger race of giants that worked copper and lodestones. They always seemed to be at or near exposed copper veins or sites rich with magnetite. They wore stone skin, ate children, and could make fire burst from the hills. They built the Standing Stones, the stone circles, and great earthworks of serpents.

The Loch Nell serpent mound, also known as the Argyll serpent mound, is a prehistoric earthwork located on the shores of Loch Nell. It’s between 300-390 feet long and forms a double “s shape” snake that rises 17-20 feet high. It has an oval head that’s about 20-30 feet in diameter. The mound is not that well-kept and is overgrown with grass and heather. It’s one of only a few serpent effigies in Europe and dramatically parallels the Serpent Mound in Ohio. The Loch Nell snake mound head is also missing its “altar stones”. Like the Ohio snake mound, Loch Nells snake mound head has unusual magnetic anomalies. Once again, indicating that someone has removed the stones that created a shadow of its magnetic presence. While the two mounds are not identical, the similarities indicate that they were built by the same people.



The Loch Nell Serpent Mound as drawn by Constance Cumming. In the Herbrides (1883) *note the Alter Stones on the tail.



Outline of the Loch Nell Serpent Mound (Current North)

Folklore around the Loch Nell Snake mound is wild. One account claims that the mound was built by the Damnonli tribe for the purpose of cult-like religious worship of feminine chaos, renewal, and the underground. Another account claims it's the tomb of Fingal a hero giant of legend. Antiquarian accounts link it to an Egyptian princess named Scota, ancestor of the Scots who converted the locals to serpent and sun worship. Some claim it's an actual petrified serpent or dragon of old that was slain by some hero. And finally, some say the Cailleach, the stone skin Hag of Bheinn, herself that built it. We don't know who exactly built it, or exactly why. Both structures, the Loch Nell and the Ohio serpent mounds are aligned astronomically to different points. Both effigies are different lengths and heights. Both effigies, Ohio and Loch Nell, must have shared a similar purpose, as we know that they shared the same technology of magnetism at their head. The exact purpose is still a mystery.

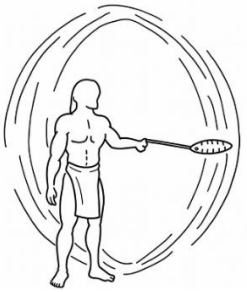
Ireland

Just across the Giant's Causeway from Argyll, Scotland is Ireland. Ireland shares some giant legends with Scotland, but one clearly stands out as the Titans. In Irish legends, the Fomorians are considered the "first race of Ireland". The Fomorians are explicitly described in the medieval texts as the older race who controlled the first metalworking in Ireland. They were tyrannical and cannibalistic; they were known for demanding tribute. The tribute was said to be two-thirds of the cattle or sometimes two-thirds of the children born each year. It was rumored that they cooked the children in big cauldrons on Tory Island. The Fomorians had a king named Balor mac Buaraninech. King Balor is not mentioned for specifically wearing armor, but he is said to have skin as hard as stone, and being invulnerable to normal weapons. King Balor is consistently said to be exactly 8.2 meters or 27 feet tall. Strangely, this exact figure holds through all the various versions of his story. King Balors troops are constantly said to be between 12-15 feet tall, this figure also remains consistent despite the story's source. King Balors' troops did wear armor. As the Fomorians are the first metal-using race of Ireland, it is said they wore armor made of bronze. As copper had proven to be too soft to be armor anymore. Raw copper was only worn as decorative pieces in court or to show ownership of a copper mine. The troops of King Balors army wore bronze helmets, bronze scale corsets, and used bronze swords and spears. The Titan uniform is improving.

King Balor is said to be at the command of twenty-seven ships full of warriors, estimated to be between 2,000 and 3,000 men. King Balor had organized his units with regional sub-kings, each with several captains. Each captain was in command of hundreds of warriors. The Fomorians were an organized, professional military order. The fleets were so big that sometimes they were named, like "The Black Fleet of the Fomorians". They used battle formations, used scouts had a communications system of "war-cry's". They had a communications network of some sort that Tory Island folklore claims could "muster the populations of nine islands overnight". The

Fomorians were hooked into an organized network. Old manuscripts state that the second battle of Mag Tuired hosted “sixty thousand” or “nine times nine thousand” warriors. The Formorians may have lived on an island, but they didn’t exist on one.

The technology of communication must have been the bullroarers. The sound is carried form miles. The bullroarer can be amplified by standing on a multileveled, raised platform, and the sound directed by using a directional and concave backboard, like a primitive megaphone. The Fomorians had a long-range communications network that, although relatively simple in its working foundations, was far advanced beyond anything the world had seen before. Today, the use of a bullroarer can be found at funerals or at a wake on Samhain. It’s called “the voice of the dead”. It’s used to let the dead speak or to scare bad spirits away. In the 1930s, it was recorded as being used to “drive the thunder away” and was considered a protection against lightning. The Titans' use of bullroarers, either by lead elements, like a scout or recon unit, or the long-range island-to-island communications systems, is a technological leap that must have seemed like magic to anyone not initiated in the Fomorian fold. It seems that the Fomorians also initiated a form of psychological warfare with the first use of sonic weaponry. The Fomorians in Irish mythology are associated with terrifying, overwhelming noises, like roars, bellows and “battle-cries” that are described as supernatural and fear inducing. The Cath Maige Tuired account of the war claims that the Fomorians fought with *voices like thunder* and *shouts that made the seas retreat*. One 17th Century poem about the battle explicitly calls their ‘War-Cry’ *beim na bhFomhorach* or “the Fomorian strike/shout” that caused pregnant women to miscarry from sheer terror. In more modern folklore, the Fomorian scream is referred to as the *Sgairt na bhFomhorach* “Fomorian Wind” or “Fomorian scream”. This was a howling gale that was said to be the angry voices of drowned or defeated Fomorians still raging under the sea. Fishermen today claim that before a big storm, you can still hear the distant roaring. King Balors roar is said to be so loud that it can shatter one’s courage and makes warriors flee in panic.



King Balor himself was said to have one of his eyes damaged or replaced, or weaponized. Some versions have his right eye being made of magnetite, and some have it being quartz or sun stone. Still other stories have it covered with a metal or a leather eye patch due to its destructive power. Balors position was on Tory Island and the Connemara coast. This was presumably meant to guard the copper mines near that location. The island was most likely connected to the mainland

at this point due to lower sea levels. King Balor may have made his fortress on Tory Island, but his reign covered the north coast of County Donegal, with influence along the Donegal–Sligo–Mayo coast. Tory Island was a strategic launching point that targeted Rosses copper mines, Cope mine for magnetite, the Derryveagh Mountains and Errigal magnetite layers as part of the Lewisian-type gneiss. Not to mention the Magheraroarty and Bloody Foreland beaches that covered with heavy black magnetite sands.

King Balor is eventually killed by his own grandson, named Lugh, in the Second Battle of Mag Tuired. Lugh was, as you may have guessed, allegedly a half-breed or hybrid Titan-human mix. Lugh's father was a human called Cian, of the Tuatha Dé Danann tribe. Lugh's mother was Ethniu, the daughter of King Balor himself. King Balor had been told through prophesy that he would be killed by his own grandson. In response to the prophecy, King Balor imprisoned his own daughter in a tower. Sneaky old Cian kept slipping into that tower to see his love, Ethniu. The inevitable child from this forbidden union was hidden and raised without King Balor's knowledge. That child was Lugh. Love knew no bounds and the prophecy was fulfilled.

The exact cause of King Balor's death is disputed. Some have said it was a slings stone through his bad eye, others have said it was a spear through his good eye. Yet other versions have him dying from the "Three apples of fire" or some sort of magic rod. The" apples of fire" version is most likely referring to hot coals or still glowing red shot thrown by a sling, and forged of metal. The Fomorians are explicitly described in the medieval texts as the older race who controlled the first metalworking in Ireland. Ironically, the same metallurgical technology that brought them to Ireland may have had a part in killing one of their greatest kings.

Before we drive down the European coastline I want to talk about the obvious evolution of the Titans. When the Titans started their expansion from the Iron Hills in Missouri, they were barely more than hunter-gatherers themselves. They had a rudimentary knowledge of magnetics and the rough use of native copper in its raw form. They had benefited from a magnetic micro-climate during the Lake Mungo event that gave them a slight advantage over the rest of the world's populations. They were already larger and stronger, like much of the North American Maga Fauna. The Iron Hills had dropped in elevation after the last cyclical disaster, and their minds seemed to have opened up, ever so slightly; they started looking elsewhere. They traveled farther. They saw new territories and new landscapes. They made advancements to the early ship-building techniques to accommodate for the larger bodies of water. They initiated coastal migration patterns on both sides of Beringia. They discovered copper and magnetite in other locations,, and they aggressively pursued it. Every location that they set up shop was directly on these specific mineral deposits. Their behavior was still not much more than that of hunter-gatherers. They overwhelmed the locals with their apparent invulnerability, sheer size, and basic

hunting techniques, like herding people into an enclosure, like you would reindeer. It wasn't until they reached the Northern coast of Scandinavia that we see something start to change.

Based on that, I want to suggest that the arrival of the Titans at Scandinavia was around or just before 18,000 years ago, sometime just before the half-cycle event. The world changed, and they started to advance in a multitude of ways.

Once they had basically circumnavigated nearly the entire Arctic Ocean's coastline, they find they needed to create a shortcut, back to home base. The levels of sea ice coming out of the Arctic Ocean would have been dropping. The waters would have been warming and getting slightly calmer, thus easier to navigate. With this opportunity came serious advancements in navigation and shipbuilding.

It was in Scandinavia that we also see the first signs of combining different metals together in a rudimentary form of smelting. True alloys are being created for the first time, albeit probably by accident.

The Titans are graduating from a copper age to an early bronze age. We also start to hear about different drinks being brewed. A "Mead of Poetry" and an "Ale of Remembrance". This starts to bring the "Stoned Ape Hypothesis" proposed by Terance Mckenna, (in his book "Food for the Gods") to the forefront. The fermentation and herbal brewing of elixirs may have had a mind-expanding or creative effect on the Titans.

While the frost giants of Scandinavian lore were still considered wild bands of warriors without much military structure, we do see alliances start to be formed. The frost giants meet in great halls with representatives from their various warrior bands. They align with the "fire giants" to combine forces in an attempt to defeat Odin and Thor. They stage a large naval armada to conduct an amphibious assault into a battle. They employ a rudimentary canine corps, and they create new communications equipment like the Lur or a horn. They have a double agent in Loki, who is commonly called a trickster, but he may have played the spy all along. Loki may have been the first agent of military intelligence and counter-intelligence who shared the secrets of Odin's more military-like structure with his brethren, the Frost Giants. Odin was forced to organize and coordinate his forces in order to achieve any success against a bigger, stronger opponent, like giants. Loki may have shared some small secrets of the Titans with his adopted family to gain their confidence, but the organizational secrets he brought back to his race were probably far greater. In the end, Loki shows his true colors, the giants lose, but the shared technology spreads to other Titans and the force is changed forever.

It would have taken time to move down the entire Ural Mountain chain. And it seems that the Titans did, following the rich exposed outcroppings of copper and magnetite. When they started the Ural adventures on the Arctic Ocean coast, they were still basic hunter-gatherers with boats,

raw copper armor, and magnets, much like how the Sami described them. By the time they got all the way down to the modern-day southern end of the Urals (it would have been the Northern end of the Urals during their time and global crust orientation), they had evolved into a meritocracy with strategic fort placement on the lines of communication and natural drift. They had matching helmets with their armored uniforms, and they were recorded moving in a formation of sorts. The artwork depicting them is solidly dated in the late Paleolithic.

In Scotland, they've erected a snake effigy with a mysterious magnetic altar or standing stone that matches the snake mound in Ohio, their home turf. The process of vitrification is introduced. By the time they get to Ireland, they appear to be a full-blown, organized, structured, and professional military force.

After the Second Battle of Mag Tuired, negotiations take place between the victors (the Tuatha De Dnanann) and the surviving senior leadership of the Fomorians. The senior living Fomorian commander was Bres. After his capture, he was offered leniency in exchange for information. The Tuatha wanted information on Titan technology more than they wanted vengeance.

Bres offered four things in exchange for his life;

1. **Plowing**- "Tell them that they should plow on Tuesday."
2. **Sowing**- "That they should sow on Tuesday".
3. **Reaping** – "That they should reap on Tuesday".

This did not satisfy the Tuatha, they threatened to kill him, anyway. So, in a final bid to save his own life, he gives up the real secret;

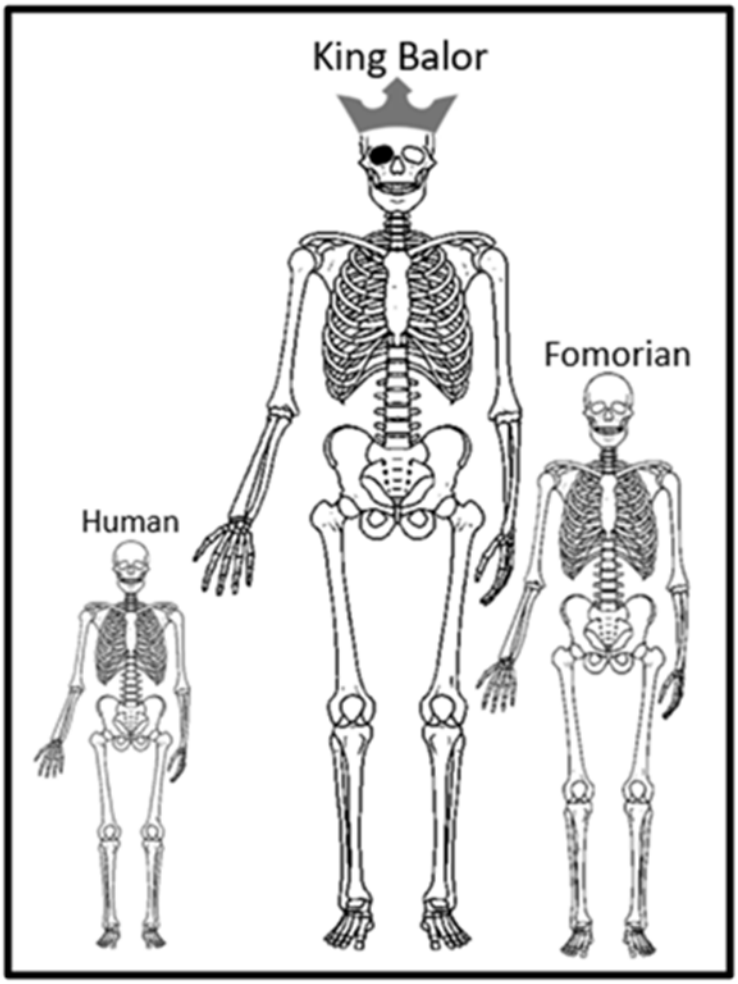
4. **Milking in perpetuity**- "Let every one of you milk his cow every day, and let the calves be let to the cows every second day, and the cows will give milk forever."

With this gem, the Tuatha let Bres live, and he was released. With that, some consider Bres as the turn coat that gave it all up to spare his life, but that may not be a fair assessment. Bres didn't really give up the goods. He gave his captors small domestic advancements while keeping the good stuff to himself. Bres, being a commander, would have known about the new advancements at the forge. He would have known about the addition of fluorite to the fires. He would have known about the introduction of apatite to copper. He would have known about the direction-finding capability of lodestones. He would have known something of the electrical properties of magnetite. He wore armor and carried weapons of the enhanced material himself. Bres would have been aware of the ability to artificially create magnets, to create magnetite out of hematite by burning it with extreme heat. The real state secrets, the military tech that kept them on top was never divulged, and Bres returns to his command with a lot to report. His captors only got basic agriculture and dairy farming tips. Bres never broke cover. He stuck to his story and survived

with honor, escaped with his life, and probably gave his command more information, in the form of lessons learned, than the enemy ever got from him.

No longer are the Titans a primitive, sea-raiding, wild band of hunter-gatherers that are marauding along the coastlines, feeding solely off the local populations. The half-cycle event combined with greater geo-spatial awareness, changed them. They have not only nautical navigation, military structure and hierarchy, advanced ship building skills, tactical formations and strategies, reconnaissance units, advanced metallurgy, fire and forge enhancements, meritocracies, strategic fort placement and construction, fermentation and elixir brewing, and formalized communications, but now we can add agriculture, animal husbandry skills, and a knowledge of a calendar. The knowledge of a calendar indicates celestial awareness in the procession of the planet and the marking of time. The Titans are no longer a simple people.

Approximate size/scale comparison of Giants in the Irish legends



The Blackhole of Biscay

We now travel south along modern-day Europe's western shoreline, the Bay of Biscay, the French coast, and the Northern Iberian Peninsula. The now militarized, organized, technologically superior Titans are set to plunder the available copper and magnetite outcroppings that face the Atlantic.

However, all we get is radio silence. The entire Bay of Biscay is a black hole. There are no stories, legends, or ancient folklore about giants. No legions of armored Titans' hording shiny black rocks. There are no spook stories about cannibals grabbing children. There are no tyrannical kings demanding tribute, nor are there armadas of sea-raiders with strange technologies. There's nothing coming in but static. Why?

If you look at the mineral deposits along the Bay of Biscay today, you won't find any exposed outcroppings of copper. You won't find any black sand beaches or exposed veins of magnetite at all. It's as if they just don't exist there. But they do! Modern techniques like IFREMER bathymetry and aeromagnetic grid surveys show strong deposits along the coastline. They are submerged. The water rose quickly in the Bay of Biscay. The exposed Biscay plain and the Andalusian shelf were rapidly submerged. The water levels rose by 300-400 feet in a short period of time. The copper and the magnetite are there, and they are only 200-300 feet under the current surface of the water. More to the point, they were most likely, exposed by the geography of the area. But they are now all underwater.

You'll find magnetite off the coast of Les Sables d'Olonne, just south of the Island Ile d'Yeu. Its only 300 feet down. You'll find more magnetite just offshore from the Vielle Saint Girons, also about 300 feet down. Just off the coast of Bayonne, you'll find magnetite and some minor copper from 100 feet down and possibly stretching into submerged canyons around the Adour River. If you look offshore of the Spanish beaches near Ribadesella, you'll find copper extensions on the Cantabrian shelf. This copper sits 80-300 feet below the current surface levels. Just off the coast of Lisbon, you'll find copper sulfides and magnetite slag together only 100-250 feet down. So, the minerals are there. These may not be the richest deposits, but they are deposits just the same. They are on our expected coastal migration route. They are even properly spaced to match previous hops made between Titan settlements or forts. We know why they're underwater now, even though they wouldn't have been before. So where are the stories? What happened to the folklore, the legends, or the myths? Did they drown too?

The answer lies in the religious history of the area. The Christianization of the area was done later than in many other areas. The Basque country in Spanish and French sides of the bay, and Aquitaine, the broader French Biscay area, were among the last pockets of Europe to fully adopt Christianity. Pagan hold-outs persisted until the 12th century or later. This delayed conversion

meant that when Christianity finally took root, sometimes by force, it hit harder. Systematic overwriting or marginalization of indigenous myths was commonplace in order to align the people with more biblical narratives. The old pagan stories of giants went from being old-fashioned nonsense to being considered heretical in a real hurry. The persecution of the Cathars in southern France set the stage for the following inquisitions to wipe out any ideas that may be antithetical to the Catholic Church's teachings.

Scandinavia's Viking era myths were being codified and recorded by Christian monks for posterity's sake, as the people had already converted. In Ireland, Catholic monks working as scribes were recording the Irish tales and folklore as a means to create a pseudo-historical genealogy and a cultural identity for the locals, whom had already converted en masse.

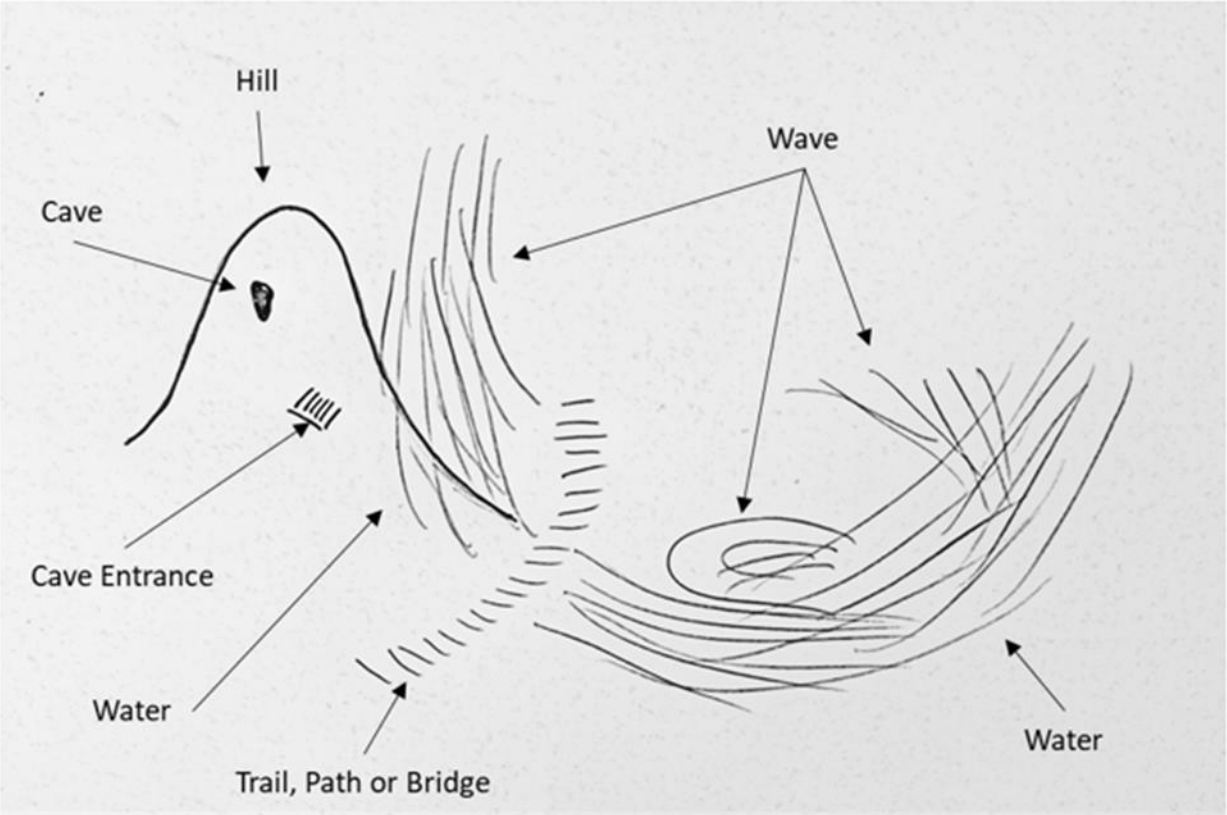
In the Bay of Biscay region, the locals had not fully converted. Pagan holdouts were sticking to their guns. The witch trials began in the Basque regions. The inquisitors framed any remaining pagan folklore as heresy. Witches stood accused of invoking old gods, giants, nature spirits, shapeshifters, and colossal builders. Any of the old mythology and ancient oral traditions were deemed heretical and satanic. In Zugarramurdi thousands were persecuted. People were hanged, tortured, imprisoned, and burned at the stake. The "witch panic" in Labourd and Navarre were some of the most brutal episodes in Europe. Entire villages could stand accused; hundreds of people would be tortured or executed. The inquisitions effectively wiped out the region's original folklore. The old myths and stories were absolutely taboo, under pain of death.

The Inquisition served as a memory hole for the Titans that passed through the area. Jose Miguel de Barandiaran, the father of Basque ethnography, wrote in the 1970s that the witch trials were the final blow that silenced the old mythology. Julio Carop Baroja called the 1609-1611 panic "the great rupture" in Basque tradition. Several modern Basque reconstructionists like Jhon Juaristi, Xabier Irujo, and Aitzol Altuna openly describe the witch trials as cultural genocide. Even Catholic historians like Gustav Henningsen, who edited the Inquisition's own trial transcripts, concluded that the trials "effectively destroyed the last remnants of pre-Christian religion in the area". "Nobody expects the Spanish Inquisition!"

Only one old legend exists on the Iberian Peninsula that discusses the Titans. The Basque managed to hold out, and the legend of the *Jentilak* still echoes in the Spanish highlands. The Jentilak, or singularly a Jentil, deriving from the Latin word Gentilis, meaning gentile. They were sometimes portrayed as hairy, bigfoot-like beasts. However, their behavior is more like the Titans. These giant Spanish gentiles taught the locals about agriculture, specifically the growing of wheat. The Jentilak had a knowledge of metallurgy that was evident but not explicitly shared. They introduced the locals to the saw, for cutting wood. They were famous not just for their size but for their ability to throw great stones in an exhibition of their strength. The Basque ball game of *pilota*, is often ascribed to the old gentile stone throwers. The locals claim that the Jentilak built

great megalithic structures, or dolmens, some of which still exist in the Basque Country today. Legend says that the last known location of the Jentilak was in the Arratzaren Valley in Navarra, Spain. The Basque go as far as to suggest that the Jentil age ended with the Birth of Christ. According to the Basque, one Jentil, Olentzero, still reappears annually on Christmas, he is commonly reproduced as a straw doll. It's amazing that the Jentilak legends survived the Inquisition at all. Leave it to the Basque to hold out.

There is also evidence of the cyclical disaster in Spain. What is being called the earliest example of a Paleolithic map is found in Abauntz Cave, Navarra. Navarra was historically in Basque country. The Map is engraved on a stone along with other scratchy carvings. Researchers from the University of Zaragoza spent 15 years working on and deciphering the map. I think it's a survival guide. It clearly depicts how the inhabitants of this cave survived the cyclical disaster, particularly the flood. The cave entrance is lower than the cave itself, meaning you have to ascend inside the mountain after entering the cave system to get to the main chamber. This creates an air pocket when the water gets higher than the mountain itself. It's like an old school diving bell. The air has no way to escape. The occupants are completely sheltered. It's a natural survival bunker. It's simple. Its elegant. It obviously worked. It's like Ice Age plumbing.



Sketch of the Abauntz Cave art

Mediterranean

The Titans now have traveled from Missouri to Greenland, to Scandinavia, to Ireland, down the Bay of Biscay to Spain, sticking to coastline migration. The conflict in Scandinavia is ongoing. Resources most certainly must be directed to the hot spots, like Mt Kiruna, but exploration continues. The Bay of Biscay didn't offer too much in terms of resources. The coastline did look different due to the lower sea levels at the time, but the metamorphic development of the rocks in that area doesn't lend itself to massive deposits of iron ores. There are a few potential sites that may have had outcroppings of raw material, like minor magnetite exposure off the coast of Brittany. What is now the north coast of Spain offers a little fluorite near the modern-day cities of Camango and Aviles.

As the Titans rounded the Iberian Peninsula, they found small outcroppings of copper and larger volumes of magnetite. It wasn't the mother-lode, but it was more than France offered. The Galicia Margin has magnetite in the now submerged outer shelf off Cape Ortegal. Portugal has Magnetite off shore in the Porto canyon, Aveiro canyon and Nazare canyon heads, all currently underwater. As the Titans entered the Gulf of Cadiz, they would have found magnetite again at the edge of the shoreline on a now-submerged seamount due east of modern-day Cadiz. This would also contain the first trace amounts of copper. The offshore islands would have certainly grabbed their attention. The coastline was different, with the sea levels being significantly lower. The islands offshore were different too. Seamounts that are now submerged would have been prominent islands. Some islands had considerable size like the Gorringe Bank, the Ampere Seamount, the Coral Patch seamount and the entire Madeira-Tore Rise. The seamounts that made up the Horseshoe Island chain and a corridor that leads to them offer magnetite with minor occurrences of hematite. The possibility for apatite exists on seamounts; Josephine, Lion, and Seine on the Madeira-Tore Rise. Little to no copper has been noted at these sites but the possibility for it to exist here is moderate.

Directly in front of the Horseshoe Island chain is the Strait of Gibraltar. Standing like a sentry in front of the strait is the Spartel Bank. The Spartel bank isn't suspected of holding any valuable minerals, but it is an island with considerable strategic value due to its prominent location, right in front of the narrow corridor that is the Strait of Gibraltar.

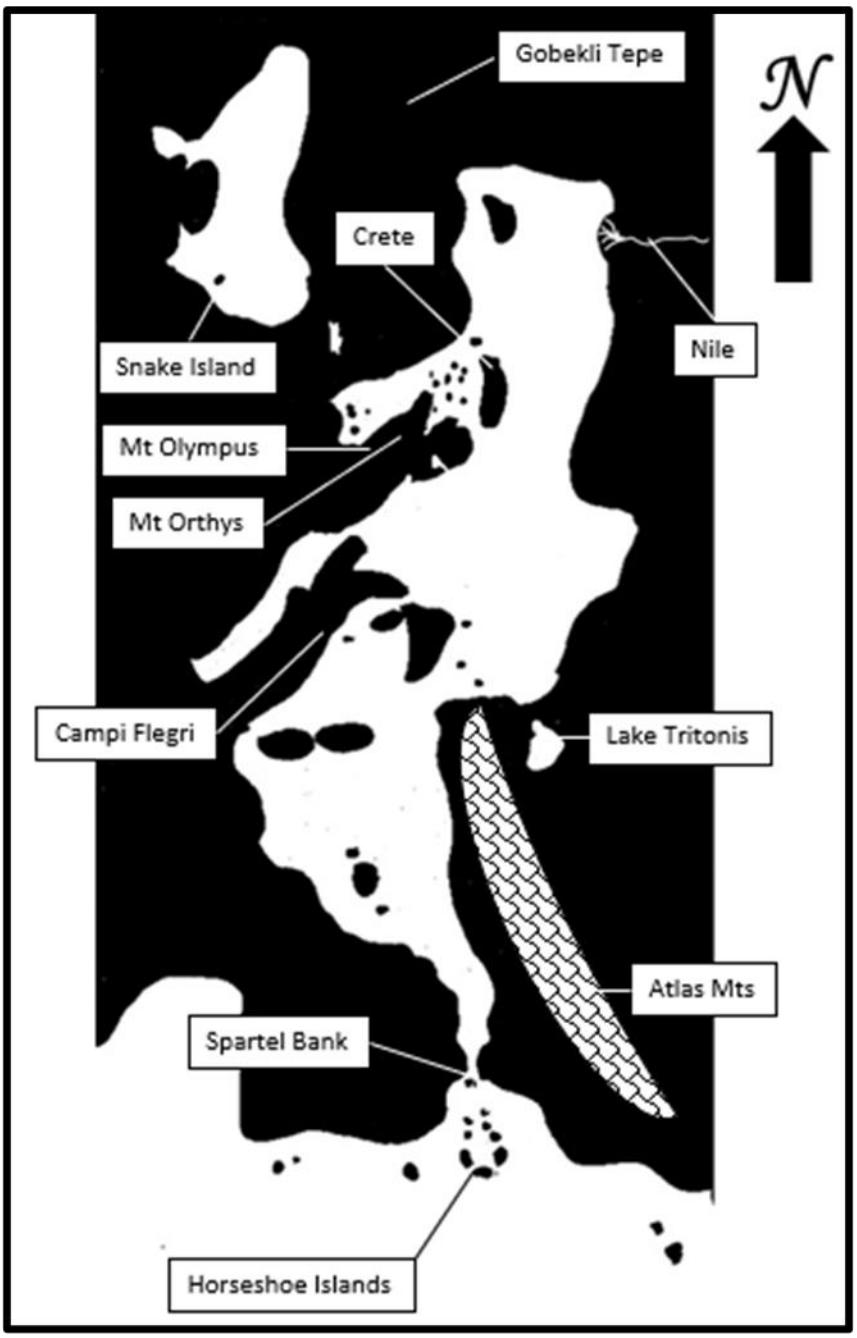
Rock of Gibraltar
Spain
Spartel Island
Gulf of Cadiz
Africa
N
Horseshoe Islands
Atlantic Ocean

After surveying the coastlines and islands, the Titans certainly would have continued into the Mediterranean. The travel up and down the coast of the Mediterranean moves from south to north. It is unlikely that they ventured too far inland yet, so they wouldn't have found the copper deposits on the back side of the Sierra Morena Mountains. They would have maintained their coastal migration pattern and bounced up the coastlines, possibly attacking both sides simultaneously.

The Titans would have checked each island, stopping at mineral deposits of interest. As soon as they come through the Strait, hematite is available in Morocco near M'Diq and across the way in Spain near Estapona. Just up the coast from Estapona they find magnetite near Marabella. Bouncing back across the sea to Morocco, the next site is Mount Gourougou. The red-stained iron deposits that streak down the large mountain that sits at the base of Peninsula of Cape Tres Forcas, would have been impossible to miss. Mt. Gourougou rises up 3,346ft over the Mediterranean. That's over half a mile high.

Back in Spain, the hills behind Almeria have magnetite. Just the coast from Almeria, the area around Cartagena has hematite and magnetite. Off the coast of Spain are the Balearic Islands. They would have been a bit larger than they appear today, as the Ausis March seamount and the Emile Baudot seamount would have been above water at the time. The islands of Mallorca and Menorca both had copper available. Past the Balearic Islands, the Mediterranean widens out significantly. On the French coastline, they would have found hematite and magnetite near Saint Tropez. The widened-out Mediterranean is somewhat bridged by the Tyrrhenian Islands. The Tyrrhenian islands consist of Corsica, which has magnetite, and the Island of Sardinia, which has ample amounts of copper. Adjacent to Corsica is the Isola d'Elba it has multiple sites for magnetite. A stone's throw from Isola d'Elba is the mainland of modern-day Italy. Just across the water from Isola d'Elba is copper found near Cafaggio and Montingegnoli. Across the waters of the Mediterranean from the Tyrrhenian islands are Algeria and Tunisia, which host the Tell Atlas and the Sahara Atlas Mountains. This region has copper, magnetite, hematite, and fluorite.

In between the copper deposits of Italy and the vast minerals of the Atlas Mountains in Tunisia, we find Sicily. Sicily itself has magnetite, hematite, and fluorite. Even neighboring Stromboli Island has magnetite. Sicily, with its mineral resources and its central location, becomes one of the most famous forge sites in mythology. It may even rival the forge at Mt Kiruna, Scandinavia.



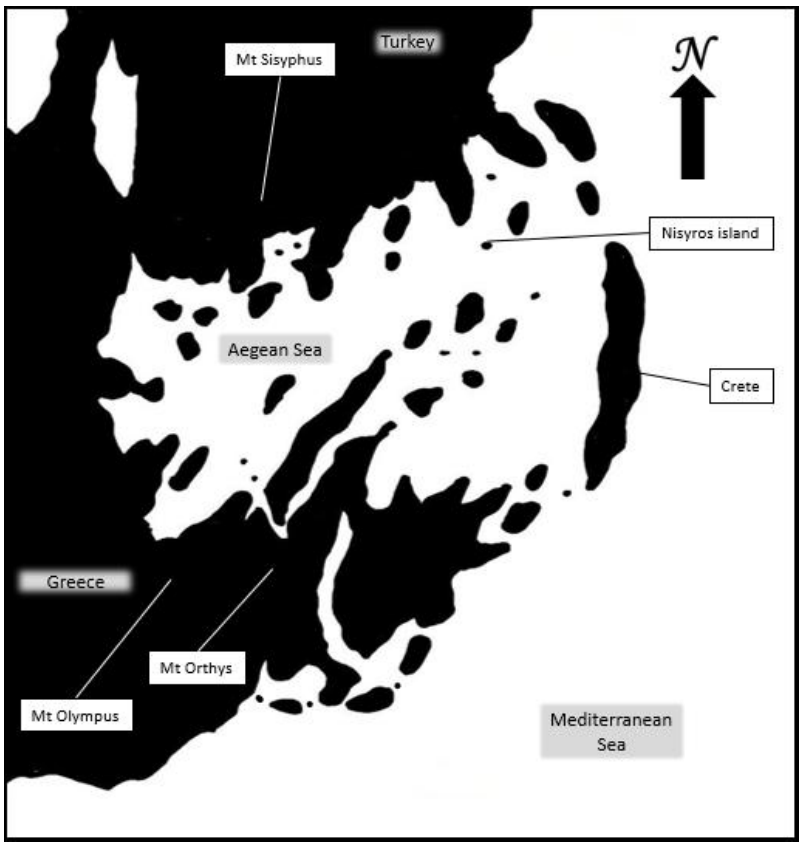
Africa, with its resources being found in the Tell and the Sahara Atlas Mountains, is in need of a permanent logistics center to funnel the gathered materials to the newly established Sicilian forge. A camp or firebase is set up, in what is now modern-day Tunisia, somewhere near the shores of ancient Lake Tritonis, to service those mountains. The Tunisian encampment may have been near the sites of modern-day Gafsa or Kasserine. Given the Titans' affinity for high points, they may have pushed for a firebase or high camp all the way up at or near Mount Chelia in Algeria. Mount Chelia is well over a mile high in elevation. The materials harvested from the African continent could then be easily transported to the forge facilities on Sicily.

From here forward, the bulk of minerals they're looking for are found on the European side. The African coast offers scant material past Tunisia. Minor occurrences of magnetite are found on the Libyan coast, and there's nearly nothing along the coast of Egypt all the way to the delta of the Nile River.

On the other side of the Mediterranean, as the Titans worked their way around Italy and into the Adriatic Sea, they found magnetite in Sarajevo, Albania, and what is now the west coast of Greece. Then they cruise up to Crete. Crete has copper at Miamou, Zervos and Chania. Crete also has apatite and some minor occurrences of fluorite. But the real value of Crete is in its location. Crete is the natural sentry to the Aegean. The island of Crete is situated like a guard post, just like the Spartel bank. It's a naturally strategic location. The Sea levels are lower in this period; therefore, more of the islands in the Aegean are exposed. This also means more of the island's mineral resources are exposed as well. The Aegean is absolutely littered with Islands and most of them have minerals that are extremely useful in the Titan forges.

The Greek mainland also has a plethora of material. Exposed outcroppings offer easy pickings. Iron-stained hills give clues to the mineral deposits nearby. The eastern coastline of Greece, just south of the Thessaly plain, is home to Othrys Mountains. The main Titan forward encampment or firebase was set up here. It overlooks a region that is still called Magnesia today. Copper is found at Chalkidiki, Lavreotiki, Karditsa in western Thessaly and near Mount Olympus. Magnetite is found near Mount Orthys and near Mount Olympus. Hematite is found near Xanthi and Mount Olympus. Fluorite is found in East Attica near Athens and Lavreotiki. Apatite can also be found near Mount Orthys. The new camp or firebase had to be established to handle this windfall of material. Mount Orthys was the natural choice. The Orthys mountains are not only close to the large spread of mineral deposits, but they are rich with desired minerals themselves. The highest peak in the Orthys mountains is known as Mount Gerakovouni with a current elevation of 5,663 ft. That's nearly a mile high. With sea levels being lower by approximately 120 meters, that places Gerakovouni at 6000 feet, over a mile up, above the sea level of a Paleolithic Aegean Sea.

The Aegean Sea is a somewhat circular sea that offers some calmer, shallower, warm waters, and the entire region is a hotspot for the targeted minerals. The Aegean Sea is the new mother-load. And new bases are being established, but the rich veins of material that stretch from Greece across the islands of the Aegean, into Turkey, and even to the coasts of the Black Sea, are still being discovered.



Southern and central Turkey has abundant amounts of magnetite and hematite found near Adıyaman, the Bingöl region, Kartalkaya, Kesikköprü, Kalkan, Karaağıl and Keçiborlu. Turkey has fluorite exposed in veins at Kuluncak, Pöhrenk. Akkaya near Adana was known to have a unique blue-purple fluorite. A green-purple fluorite can be found near Bayındır and Akcakent. Apatite is exposed at Pınarbaşıand Avnik.

Syria is host to magnetite and hematite in places like the central valleys of Kebir. Currently, Syria is ranked 9th globally in the production of apatite, with occurrences being found in phosphate rock deposits in the region.

Lebanon has historical ties to archaeometallurgy. However, modern mapping of current or ancient outcroppings is limited. The known copper industry and Bronze Age workings has been linked to the area of Byblos. Byblos was possibly an ancient forge facility.

Israel has notable copper and phosphate deposits that have been mined from exposed outcroppings since before the written records in antiquity. Prominent outcroppings of copper can be found in the Timma valley in the Negev Desert. Magnetite and hematite are exposed in the Ramim-Manara ridge in Upper Galilee. The Har-Ramin deposit has hematite, as does the Paran area near the Dead Sea. Both fluorite and apatite can be found in exposed outcroppings in Hatrurim Basin and Negev.

Palestine has magnetite and hematite outcroppings at Nabi Musa near Jericho and at Mugharet el-Wardeh near the Jordan border. Apatite was found in some outcroppings near the West Bank area.

The trail of mineral goods is the trail of giant legends. The exposed copper staining the hillside draws our Titans towards any hillside they see from their boats. The black sand beaches that expose the magnetite potential confirm what the Titans suspected. It's impossible to know if they had a greater sensory perception of magneto reception or not, but it's possible. Like bloodhounds sniffing out the potential mineral richness, the Titans followed the magnetite and copper into the Caucasus, past the Black Sea, and to the shores of the Caspian Sea, and possibly even into northern and central Iran.

The modern-day Black Sea was an isolated freshwater lake at the time. The search for minerals crossed over Turkey and the low plains that today are the Sea of Marmara. Old legends of giants extend to the Crimean Peninsula and Snake Island. The Caucuses are full of giant legends of their own.

The exploitation of the area is continuous and widespread. While scouting parties continue to follow the veins of mineral wealth. Mt Othrys is established as the main forward encampment. Mt Orthys has bountiful magnetite and offers the often-desired high ground with commanding views over the Thessaly plains, strategic placement, and access to other areas that hold strategic, mineral or tactical value.

After the discovery of all this mineral wealth, an organized supply chain needed to be established. Whether this was done either purposely with military-like precision and planning, or if it just happened organically, is hard to tell. Given the pattern of military-like structure we've seen develop so far and the history of conflict that the Titans have endured, I'm leaning towards a more purposeful militaristic planning. The Horseshoe Islands are most likely chosen to serve as a multi-purpose operations base and logistics center. It's set up outside the Strait. The Horseshoe Islands are a naturally formed ring of islands. They are one day's sail outside of the Strait and offer unfettered access to the Atlantic Ocean in any direction. As a logistics hub, they can service the Iberian Peninsula, the African coast, and the Mediterranean Sea. The nearby Spartel bank serves as the guard post and access control point at the mouth of a natural choke point.

The Titans' coastal exploration briefly goes along the African coast towards the Canary Islands, but it isn't the new priority. The mineral resources are found in specific geological layers, which are formed millions of years prior. This stratum of material is found in parts of the Mediterranean, and anything in Africa, past the Atlas Mountains, offers scant material. The continued exploration of the African coastline appears to be put on hold. Basically, the mission to proceed along Africa is essentially shelved while the rest of the Mediterranean is established and exploited.

Titanomachy

The early stories of the Mediterranean are all about Zeus and the Olympians. Greek mythology is very much like Norse mythology. The stories aren't kept on a strictly linear timeline. Trying to chronicle the events in a sensible and linear fashion is problematic. I have no intention of rewriting Greek mythology, but a summary of the myths may be required to tell the story of the Titans technology, how it came about, and what eventually happened to them.

As the Mediterranean is set up and strategically exploited, allegiances with locals are made. Contact with humans in places like Sicily, Libya, Assyria, Crete, and Greece offers an opportunity to enlist locals as potential slave labor that may have been used in the exploitation of mineral goods. Slavery in the Mediterranean was a given. It was so normalized through the ages that it wasn't tainted, in thought, as slavery is today. Forced labor and slavery was just a routine part of everyday life. It was often considered a natural consequence: trade, or debt bondage, or simply a hierarchal obligation. The normalcy of domestic servitude was even reflected in the language as *Do-e-ro* as male servants and *Do-e ra* as female servants. One such Do-e-ro was Ganymede, he was allegedly a Trojan prince, of royal blood with such good looks and legendary natural beauty, that he was forced into servitude of the Olympians as a "cup bearer", a sommelier or wine steward of sorts for Zeus. So imbedded in the culture was slavery, that the concept of not having slaves, indentured servants or forced labor would be a foreign concept in and of itself.

Sex in the Med

Once again, the women of men are deemed comely. The women of the Mediterranean are as beautiful, attractive, and as desirable to the Titans as the mineral goods that brought them there in the first place. Sex in the Med was inevitable. Much like the cross-breeding that happened in Scandinavia, the Titans definitely hooked up with select human women in the Mediterranean. I believe the 1st general order of no sexual relations with locals may have been the unenforced rule that everyone ignored. Or perhaps it wasn't so much a written rule but more a form of "Titan Supremacy", like a racial norm. Either way, it was clearly ignored.

The most notable player of the legends was Zeus himself. Zeus had over a dozen baby-mamas, both Titanesses and mortals. Zeus was noted for sleeping with the Titaness's; Metis the mother of Athena, Themis the mother of Horae and Moirai, Euryome the mother of Charites, Mnemosyne the mother of the nine muses, Leto the mother of Apollo and Artemis, Dione the mother of Aphrodite, Maia the mother of Hermes, Selene the mother of Pandia, even two of his sisters; Demeter the mother of Persephone and his sister Hera the mother of Ares, Hebe, Eilethyia and Hephaestus. The mortals that he slept with include: Europa, Leda, Danae, Alcmene, Io, Semele, Callisto, Antiope, Niobe, and Aegina. The legends also suggest that Zeus had sexual relations with Nymphs, a seemingly separate race of human-like wild girls. They were more associated with

animist-like natural forces. The Nymphs that were noted as having slept with Zeus were; Hilmalia, Taygete, Electra, Elara, and Lamia. All of these sexual affairs are noted because they produced offspring. The relations with Titaness's produce more mythological gods, pure breed Titans. The affairs with mortals or local women and nymphs produced demigods, heroes, or half-breeds.

Zeus wasn't the only Titan that slept around with mortal women, although he was certainly the most prominent and promiscuous one. Poseidon, Apollo, Hermes, Ares, Dionysus, Lapetus, and Epimetheus all took mortal women as lovers, all producing offspring. Titaness's that took mortal male lovers include Aphrodite and Demeter.

Not all of these hook-ups can be believed. According to the legends, almost everybody of note was somehow related to the old gods of Greek mythology. Almost certainly this was done to establish political legitimacy, generate instant prestige, and to create panhellenic unity or local pride. It seems that when someone needed a legitimate claim to a throne, they paid off poets to sing the song of false heritage. When someone needed a historical link to the old world to legitimize anything, paying someone to affirm the heritage link to the old gods was the best way. In short, mythic genealogy in Greece wasn't neutral history; it was political and cultural PR. To make things worse, it seems the ancient Greeks had a knack for recycling heroes' names. So, a hero would live, do great deeds, and then die. Then, many years or even generations later, some new hero arises, does great deeds, and is then bestowed the same name as a previous hero. Then the mythology just lumps the two characters together as the same person. Rinse and repeat.

The most prominent hero name that gets recycled repeatedly is Hercules, son of Zeus, the 12 labors guy. However, there's a dozen different Herculeses. There is the original; the son of Zeus and Alcemene, a Dactyl Hercules, a Cretan Hercules, an Egyptian Hercules, A Lydia Hercules, a Thessaly Hercules and a few other minor Hercules, that stuck to local feats. Poets and mythographers sometimes treated them as different people, and sometimes they treated them as the same person. The trick was always the same: take a legendary name loaded with glory, retrofit it on an older hero or apply it to the new golden boy, then stitch it into the bigger genealogy. Nobody loses prestige, and everybody wins. In the case of Ajax, the family just kept using the same name for a son over a couple of generations. They kept producing "Ajaxes". Then some mythologies just lumped these Ajaxes together as the same guy. Long live Ajax.

With all the sex going down between the Titans and locals, you'd think we'd have a gold mine of case studies to cross-examine for Haldane's rule and Dobzhansky-Muller incompatibilities. But all of our data is filtered through cultural, political, and artistic lenses. Poetic license has affectively turned the whole potential dataset into rubbish.

Sex between the Titans and the Humans has a history of leading to conflict. We see it in Japan, Russia, Ireland, and Scandinavia. Now we see sex between the Titans and the local population as

a prominent aspect of life in Greece. This sexual revolution does a number of things; first of all, it produces half-breeds, second, it improves relations between the two species in a variety of ways, and third, it nearly eliminates cannibalism. The old tradition of using humans as a primary food source, which we tracked for thousands of years, is becoming taboo. It seems that the Titans' cross-breeding with humans keeps us off the menu. Instead, the humans go from being dinner to being labor, and eventually being consorts.

Over time, the fraternization between the Titans and the humans becomes more and more commonplace. The first generation of Titan explorers in the Mediterranean is focused on the mission and the mineral resources. This group of early explorers set up the entire operation. They explored the boundaries, set up logistics hubs, forges, and basecamps. They sent out scouting parties to continue the exploration while they improved the infrastructure around this the new mineral hotspot. The human population was just part of the landscape, possibly even considered cattle or available labor.

The second generation of Titans in the Mediterranean is a bit more familiar, maybe even a bit promiscuous with the local humans, but sexual relations are the exception, not the rule. The humans can be useful, used, directed, and, on some occasions, enjoyed. But the separation between the species is obvious. Titan supremacy is the norm. This era of rule was commonly referred to by the locals as the Golden Age. It appears that the titans didn't just enslave the local population, but they improved it. The agricultural practices, like the ones that Bres divulged in Ireland, seem to have been shared with the people of Greece. The golden age is one of prosperity, the food is newly bountiful, and everyone is feasting, fat and happy. The Titans are still the iron-fisted overlords, but the local population seems to be enjoying the benefits of the Titan leadership. Humans are not living in fear of being eaten anymore. Hesiod called this period the Golden Age, even after the defaming of Cronus, thousands of years of demonizing the Titans, celebrating their downfall, and the literal worship of their usurpers. It's still recognized as a time of great prosperity, peaceful times, easy times, good times, golden times.

The third generation of Titans in the area is completely onboard with the idea of socially mixing with the local population, albeit still from a position of authority and natural superiority. This third generation of Titans was, for the most part, born in the Mediterranean. They grew up in a time when it wasn't uncommon for them to mix it up with the locals. Aside from the obvious sexual encounters, the feasting and revelry that was called the Golden Age was often spent in mixed company. Fraternizing with "the help" was commonplace amongst the new generation of Titans. This attitude and acceptance of racial mixing, no doubt, played a part in the separation of ideologues that dominate the legends of ancient Greece. That's not to say that sex, jealousy, or compassion for us humans is the reason for the Titanomachy, it isn't, but it may have been in the background of Titan minds.

The Titan mind is not difficult to understand. We may surmise that it was not unlike our own. The generational divides share themes that we can recognize. They have paranoia, anger, paternal pride, jealousy, logic, and joy just as we do. The Titan mind seems to be just as perfect, just as complex, and just as flawed as our own.

In the Mediterranean, the "Old Guard" Titans discovered the mineral richness of the Mediterranean and established strongpoints, defensible positions, forges, and logistical hubs. The leadership also identified threats and subdued them quickly. This ushered in the golden age. They were like Viking explorers chasing mineral wealth, but eventually their persistent presence transitioned them into founding fathers for local societies.

While the quality of life in Mediterranean seems to be on the rise with this first generation of Titans, the throne room has more than its share of drama. Eventually, the second-generation wrestled control away from the old guard with an internal coup organized by a mother, using her youngest son to overthrow a heavy-handed and tyrannical father. In modern Freudian terms, this may be considered a "mommas' boy" having "daddy issues". The end result is: Uranus is castrated by Cronus, and Cronus then assumes control of the entire Mediterranean. The Golden Age continues for man, and the throne room drama seems, again, mostly contained within the halls of power.

The legends then go on to tell us that Cronus has a history of trust issues with his own children. It's not hard to imagine why. This distrust of his own offspring, and alleged cannibalism of them, leads to another mother, who then plots against another heavy-handed father. Again, the youngest son, this time it's Zeus, is to be used to, eventually usurp the throne. And the cycle will repeat.

It's funny that the Titans, all over the world, and all over time, keep repeating the same mistakes. They not only repeat behaviors but also end up falling prey to the same pitfalls, calamities, and disasters, natural and self-made.

With Zeus spirited away to Crete by his mother, Rhea, the Golden Age continues. But one may assume that treasonous alliances are being formed. Cronus is still a heavy-handed dictator. He has a large area to govern and much to look after. He identifies what he considers threats and eliminates them. His father had seen the threat of emerging technology being created by the forge. Three talented smiths: Brontes, Steropes, and Arges all get imprisoned by Uranus, then briefly released by Cronus, only to be imprisoned again. While Cronus certainly wanted to undo the workings of the previous ruler, he soon found himself agreeing with him. The burgeoning technology and forging capabilities of the three "Cyclops" were immediately considered a threat by Cronus. Perhaps Cronus had received information from the Scandinavian front about the devastating effects of this technology "in the wrong hands".

By the way, blacksmiths were often called “cyclops” because the early form of eye protection was a simple leather patch over one eye. The smith simply turns their head to the side with each strike of the hammer to prevent sparks from getting their uncovered eye. More often than not, if they didn’t wear a protective patch, they risked losing an eye and then truly becoming cycloptic.

Another threat that was identified by Uranus and imprisoned, then freed by Cronus, only to be immediately imprisoned again, were the Hecatoncheires. The Hectaoncheires were three warlords of extraordinary ability named: Cottus, Briareus and Gyges, were imprisoned along with the smiths. Legends went on to call them hundred-handed, having a hundred arms and with fifty heads apiece; however, this is clearly dramatic license gone wrong. They allegedly hailed from a region called Hecatoncheiria, which translates to “Hundred-arm” or Hundred-handed”. It’s in Northern Macedonia, or north of Mount Olympus. It seems that they may have had the command of 100 warriors each, thus the infamous number of 300 in Greek history, history repeats again. The mythology explicitly details them as siblings to Cronus, being born from the same parents. In other words, they were Titans. Other euhemeristic versions suggest that they were local warlords of human decent that later joined forces with Zeus.

Zeus is growing up, unknown to his father, on the island of Crete. A security detail of early Minoans called the Kouretes are tasked with running cover and protecting Zeus while he matures. The security detail is augmented by Laelaps “the Golden Dog”. This canine is tasked with providing additional security, not just to baby Zeus, but to the goats that provide milk for him as well. This marks the first noted use of working dogs in the Mediterranean

As Zeus comes of age, he knows he needs more support. Zeus’s first crush is called Metis and she’s instrumental in Zeus’s plans as she develops a poison that gets slipped into Cronus’s wine. This effectively frees Zeus‘s siblings, as they had been swallowed by Cronus, in a bizarre reference to cannibalism. While Cronus is down and recovering from the assassination attempt, Zeus sets up his base on Mt. Olympus. Mt Olympus is directly across the Thessaly plain from Mt Orthys. On a really clear day, the two peaks can see each other. Zeus is able to consolidate his forces on or near Mt Olympus without much interference, as Cronus was still recovering. This period of contesting wills lasts for ten years and is called the Titanomachy. It is essentially a 10-year stalemate between two rock-throwing clans.

During this 10-year stalemate, the local population was caught in the middle. They neither participated nor picked sides. The locals living on the Thessaly plain would have wanted to be somewhere else, as that is the “no-man's land” in between the two warring factions. Surviving witnesses to this fight would have been scarce, as the Thessaly plain, once a productive farmland, would have been a burnt-out, pockmarked wasteland between the two strongholds. There is some suggestion that some may have favored the Cronus side of the conflict, as he had brought

them into the Golden Age. This essentially makes them loyalists towards the crown that had brought them agriculture and prosperity.

The military-like structure that the Titans had set up for themselves was set up to defend against a local uprising, like they had experienced in previous locations. It was not ideal for an internal conflict like an insurrection or civil war. The Horseshoe Islands were primarily a logistic hub; their main military annex was the Spartel bank, which served as a guard post against local incursion attempts. The possibility of a local uprising had been subdued by the prosperity of the golden age, so there was no chance of revolt. Any possible threats had been eliminated or imprisoned by Cronus. Cronus himself had not established a continuity of command, instead, he placed all his faith in his own continued rule. In short, the Titans, despite their military set-up were not prepared for an assassination attempt followed by an insurgency. The Horseshoe islands logistical hub was seemingly under the command of Atlas. Atlas did establish a continuity of command plan. He had placed his own sons in charge of different regions, islands, or aspects of the ring like base. The Titans should have been sending messages back to other Titan strongholds requesting support or additional troops, but there is no indication that this ever happened. Also, seeing as other Titan strongholds faced conflicts of their own and the Mediterranean problem was largely an internal conflict between family members, they weren't treated as the priority. This region already had a reputation for family drama and intrinsic power struggles; resources would be diverted to other fronts, while everyone waited to see how it played out. The Titans had long been known for the use of bullroarers. The ability for them to effectively communicate over large distances is noted in their history. However, in the Mediterranean the bullroarers, also called the Rhombus by the Greeks, don't make their appearance until after the Titanomachy. Why Cronus would ignore the tools of communication is a bit of a mystery. The lack of communication would result in a lack of support.

Prometheus was the real catalyst for change in this ten-year rock-throwing contest. One legend places Prometheus as the brother of Atlas. Prometheus switched sides after nearly ten years as a loyalist with Cronus. Cronus would definitely have been constantly consulting with Atlas about this. Allegedly, Prometheus went to Mt. Olympus to advise Zeus. Why he did this is not clear, but it was game changer. Prometheus suggests to Zeus that he should free the imprisoned smiths. Zeus, acting on the counsel of Prometheus, goes to the prison known as Tartarus.

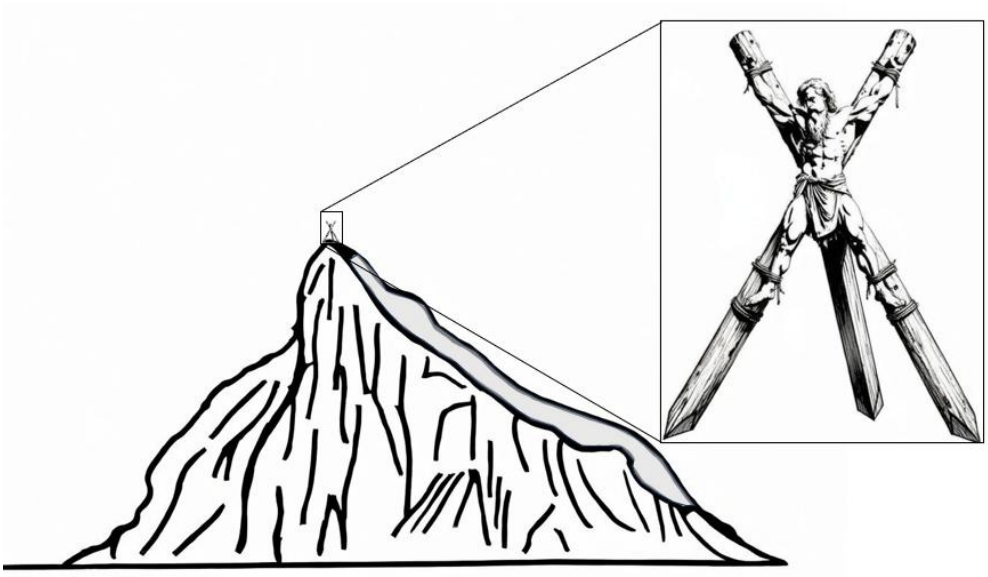
The prison break starts when Zeus takes out the lone sentry named Campe. He frees Brontes, Steropes, and Arges, and they then immediately get to work forging a weapon for Zeus. They apparently had some unfinished weaponry in development or stashed away while they did time. The dangerous technology that probably got them locked up in the first place is now out in the open, and Zeus has it. Zeus gets his famous thunderbolt. They also give a Trident to Poseidon, and they have the Helm of Darkness for Hades. This should have been the start of a new

Mediterranean arms race, but oddly, it's not. Cronus had locked up anyone that offered new technology, discouraging any real innovation. Cronus is a bit of a traditionalist and doesn't trust the new technology, instead relying on the old, tried and true method of brute strength. While Zeus is in Tartarus busting people out of prison, he also frees his three uncles, Cottus, Briareus and Gyges, the Hecatoncheires. They join his ranks in this fight without delay and without question.

Zeus now has all the advantages. He quickly takes the fight to Cronus in a simple frontal assault. There are no clever tactics, no flanking movements, or multi-prong incursions. It's a brutal, straightforward attack. With Zeus's increased numbers and technological superiority, it's over quickly. The Titans are overrun, killed, or captured. 10 years of war, won in a single day.

Cronus and his entire force are defeated. The only listed death or true casualty is Menoetius, a brother of Atlas and Prometheus. All the captured Titans are imprisoned in the same prison in which Cronus had imprisoned others. The three Hecatoncheires, having previously been guests at this facility, personally upgrading the security at Tartarus.

Atlas was present at Mt Orthys for the final assault and is captured as well. Zeus devises a special plan to punish Atlas. The Horseshoe Islands are still a Titan loyalist stronghold. Zeus needs to subdue the risk of a counterattack or rescue attempt by the loyalists at Horseshoe. I think Atlas is taken to the top of the Rock of Gibraltar and possibly crucified on an X with his arms reaching up to the sky. This served as a rather macabre warning to all that Zeus was not to be challenged. Ironically, like a form of martyrdom, Atlas's name is burned into that part of the world forever. The Ocean is named the Atlantic after Atlas. The image of Atlas holding up the sky, or the world, is revered as a symbol of strength, duty, and devotion for many thousands of years. Later, Plato names the Horseshoe islands Atlantis, after Atlas. Due to Zeus's attempt to make an example of Atlas, Atlas became more famous than ever.



Titanomachy tech

Zeus has his famous lightning bolts that he hurls with great accuracy and repetition. Legend would have us believe that he's physically handling 300 million volts with his bare hands. I would like to offer that it was a binary weapon system not unlike Thor's hammer Mjölnir or Odin's spear Gungnir. These tools were binary weapon systems with some sort of ground or trigger associated with them. Thor had the gloves named Járngreipr that accompanied Mjölnir, and Odin had the rings Draupnir to accompany Gungnir. Zeus's weapon was called Keraunos, which simply means thunderbolt. In later myths, it did get ordained with a special name; it was sometimes referred to as the "Master Bolt". Special tools get special names. The weapon It also appears to have a complimentary component. The hand-held lightning bolt system is sometimes accompanied by a bracelet of some sort. A bracelet that, when shown, is most often depicted on the throwing arm. Zeus is infinitely aware of operational security; if there is a binary component to this system, like a bracelet, he would have wanted it kept a secret. Not all artistic portrayals of Zeus show the bracelet, and its certainly never named. At first glance, it may look like wristwatch shaped sort of thing. This is possibly another binary weapon system. Zeus was definitely playing his cards close to the chest.

As the Titans travel and expand their magnetic empire, it appears that the smiths of the forges travel too. Like an auxiliary supporting element, the forge is looking for a place to set up shop in the new lands. The technology that was started in Scandinavia was not forgotten by the Brontes, Steropes or Arges. These masters of the forge obviously worked on sophisticated weapons before. They may have shared time at the forge with Brokkr and Eitri or the sons of Ivaldi, as Zeus's Keraunos represents the same or similar technology in the Mediterranean conflict as is found in the Scandinavian conflict.

Here's how I think it may have worked. The Titan weapons are the result of thousands of years of working with magnets and other stones in the forge. The erudition in the field of magnetics was beyond what was previously imagined. Using special homemade magnets and precision metallurgy, the forge was able to induce a plasma reaction. The most effective reaction was the plasma "z-pinch". The z-pinch is akin to forcing a small amount of energy into an even smaller space, and the reaction is a more powerful release on the other side. Placing the magnets in such a way would be like putting a rubber band around a balloon and squeezing the middle. The exchange of pressure and energy that results is a more violent release on the exit side. Think about putting your thumb over the end of a garden hose to increase the pressure of the water. The highly refined magnets are acting as the thumb. The Lorentz force equation provides the framework to confine the energy within the device and not end up frying the user. A magnetite-doped copper could be used to spiral particles into the helical paths and pinch the beam. A simple and rudimentary Piezo-spark ignition would jump-start the arc using fluorite, the magnetite takes

over in terms of confinement. The charge gets squeezed into the Z-pinch, and bam, lightning. The forge artists were working at an extremely complicated level with magnets and metallurgy; in return, they produced plasma. Today, we know that based on the plasma experiments conducted by the award-winning American physicist Anthony Peratt, a Z-pinch can enlarge a small spark into a larger plasma reaction. Plasma can be lightning; lightning is plasma.

Here's the math;

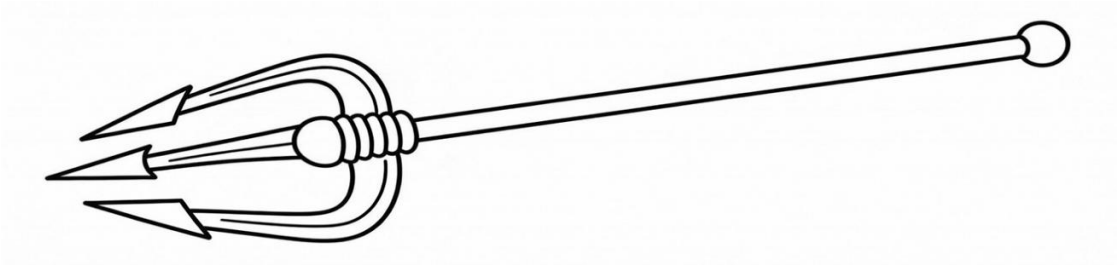
Z-pinch is a plasma confinement method where a strong axial current (along z-axis) generates an azimuthal magnetic field that pinches the plasma radially inward via the Lorentz force. This could hypothetically scale to ancient tech for "throwing lightning" (directed plasma bolts) or even earthquake induction (via ground-shaking energy release). Here's the key math, derived transparently:

1. **Basic Lorentz Force in Plasma:**
   The force density on the plasma is $f = J \times B$, where J is current density (A/m²), B is magnetic field (T). For Z-pinch: current J along z (axial), B circling in theta (azimuthal) direction—force points radially inward, compressing the plasma like a magnetic vice.
2. **Magnetic Field from Current:**
   From Ampère's law, for a cylindrical plasma column with total current (I) uniformly distributed over radius (a), inside the plasma ($r < a$):
   $B_\theta(r) = \frac{\mu_0 J_z r}{2} = \frac{\mu_0 I r}{2\pi a^2}$ (since $J_z = I/(\pi a^2)$).
   Outside: $B_\theta(r) = \frac{\mu_0 I}{2\pi r}$.
   (Derivation: $\oint B \cdot dl = \mu_0 I_{enc}$, for circular path at r.)
3. **Lorentz Force Derivation:**
   Plug into $f = J_z \hat{z} \times B_\theta \hat{\theta} = -J_z B_\theta \hat{r}$ (radial inward).
   Magnitude: $f_r = -\frac{\mu_0 J_z^2 r}{2}$ inside.
   This creates a pressure gradient: $\frac{dp}{dr} = f_r$ (from MHD equilibrium, ignoring inertia for static pinch).
4. **Equilibrium: Bennett Relation:**
   For pinch balance (magnetic pressure = gas/kinetic pressure), integrate the force:
   Total pinching force per unit length: $F/L = \int_0^a 2\pi r f_r dr = -\frac{\mu_0 I^2}{4\pi}$.
   Balancing against internal pressure: $\frac{\mu_0 I^2}{4\pi} = 2\int_0^a 2\pi r P(r) dr$ (factor of 2 from thermal + magnetic, but simplified).
   Classic Bennett: $\frac{\mu_0 I^2}{8\pi} = NkT$ (for uniform T, line density N particles/m).
   (Derive by equating magnetic energy to thermal: pinch holds until B^2/(2\mu_0) ~ nkT.)
5. **Scaling for Fusion/Relevant Tech:**
   For breakeven (e.g., "lightning" energy): I ~ 10^6-10^7 A for lab Z-pinches, compressing to densities n ~ 10^{24} m^{-3}, T ~ 10^8 K. Stability issues (MHD modes like sausage m=0, kink m=1) limit duration—math for growth rate $\gamma \sim v_A/a$, where Alfvén speed $v_A = B/\sqrt{\mu_0 \rho}$.

I think that the artists in the forge had created special magnets, probably out of fluorite fired hematite, that was folded many times over and had its magnetic particles artificially oriented in the correct direction to induce the desired effect. The special magnets are then forged into a position that creates the appropriate architecture for the z-pinch effect. The plasma discharge effect at the end of the device would look like a fork or trident. The Smiths in the Titan forges were producing more sophisticated weapons than they ever had before. Zeus's Keraunos was a handheld, Z-pinch, plasma-inducing, bolt-producing weapon. I would like to propose that Thor's hammer, Mjölnir, is the same type of tool. Mjölnir is completely encased in a hammer-shaped

design and has a short handle of non-conductive material, like wood wrapped in leather. However, for these tools to function properly, they have to allow for a back-blast. The reaction wants to go both ways to escape the pressure of the z-pinch. The lightning bolt would shoot in both directions. It would be like a bazooka or a recoilless rifle. This is why Zeus is always pictured with this thing held high and above his head and shoulders. That may well be an accurate depiction of the firing position. "Back-blast area clear."

Zeus's thunderbolt isn't the only weapon system used in this war. Poseidon is given a Trident. The trident doesn't emit lightning or sparks. Poseidon doesn't throw it or launch it at his enemies. The powers of the trident focus mostly on its influence on water and seismicity. It stirs up the water, the seas, and makes storm-like conditions. It's also interesting to note that there are no complimentary components to this weapon. Just the opposite, in fact, this system seems to have Poseidon completely naked nearly all the time. There is no insulation, ground, or trigger device mentioned in legend or visible in the art. The Trident appears to be a beta-model of Zeus's thunderbolt. I think the trident weapon is more akin to Odin's spear Gungnir. It was Brontes, Steropes and Arges first attempt at replicating the Scandinavian tech. The weapon was an attempt at a directional shot or charge. The butt-end or base of the weapon has a resistor of some kind to make it directional. The smiths were trying to eliminate the back-blast. By canceling the back blast, they messed with the energy's momentum. The principles of conservation of momentum is one of Newtonian physics big rules. The total "push" in a system stays the same unless outside forces mess with it. In a closed system like the Trident, the plasma shoots forward and must have the balance of shooting backwards as well. If the backblast isn't allowed, the weapon will be out of balance, and the system will absorb the energy and destroy itself and possibly the user as well. The required charge must therefore be less powerful. Also, with the back door sealed, the plasma can't flow freely and it will build pressure like a blocked pipe. This will trigger instabilities in the z-pinch. This will force density spikes, and the force will extend out in waves. The instability of the plasma will ripple out of the available exit in a cone-like shape with vibrational properties. It's no longer a straightforward shot of plasma like a lightning bolt, but instead a vibrational cone that pulses out. It takes the destructive potential and makes its disruptive potential. I'm assuming that they initially tried to direct the outgoing effect by replicating the forked design of a plasma discharge. It turns out that the idea of directing the plasma blast with the fork or trident design didn't really work. But it does look cool.



Here's the math;

1. Basic Setup: Trident as a Z-Pinch with Resistive Load

- The trident's shaft/prongs act as electrodes channeling axial current (I) through plasma (e.g., ionized air/water vapor from a high-voltage source like atmospheric electricity or ancient capacitors).
- Normally, the Lorentz force pinches the plasma radially: $f_r = -J_z B_\theta = -\frac{\mu_0 I^2}{4\pi r}$ per unit volume (from earlier derivation: integrate Ampère's law and cross product).
- If unchecked (no resistor), this compression can hit instabilities (kink modes, $\gamma \sim \frac{\pi}{\sqrt{\mu_0 \rho r^2}}$), leading to a blast—like a thunderclap or explosive discharge.
- But with a "plug/resistor" (resistance (R) at one end, maybe a conductive but lossy material), it becomes an RL circuit: the plasma's self-inductance (L) (from the magnetic field energy) couples with (R), damping the current buildup.

Plasma inductance (L) approximation (for a cylindrical pinch of length (l), radius (a)):

$$L \approx \frac{\mu_0 l}{2\pi} \ln\left(\frac{b}{a}\right)$$

(where (b) is outer return path radius; derive from magnetic energy $U = \frac{1}{2}LI^2 = \int \frac{B^2}{2\mu_0} dV$).

2. Governing Equation: Damped Circuit for No Blast

- Drive it with a voltage pulse (V(t)) (e.g., from a mythical "power source" like Zeus's lightning handoff or ambient fields).
- Kirchhoff's law for the RL loop:

$$V(t) = L\frac{di}{dt} + Ri$$

(No capacitor here for simplicity—assume impulsive start, like a sudden discharge.)

- Solution for current (i(t)) after impulse (step voltage V_0 at t=0):

$$i(t) = \frac{V_0}{R}\left(1 - e^{-(R/L)t}\right)$$

  - Derivation: Solve the ODE $\frac{di}{dt} + \frac{R}{L}i = \frac{V_0}{L}$ (integrating factor $e^{(R/L)t}$).
  - Without R (R→0): i(t) → ∞ instantly → blast (infinite compression via Lorentz).
  - With R: Current rises smoothly to V_0/R, no spike—energy dissipates as heat in R (Joule: $P = i^2R$), preventing explosive pinch.

3. Ripples: Oscillatory Waves from Underdamped Case

- For more "ripple-like" behavior (e.g., seismic or EM waves propagating out), add capacitance C (maybe from the trident's prongs acting as plates in ionized medium), making it an RLC circuit. This creates damped oscillations instead of monotonic rise.
- Equation:

$$L\frac{d^2i}{dt^2} + R\frac{di}{dt} + \frac{1}{C}i = 0$$

(After initial charge; characteristic eq: $s^2 + (R/L)s + 1/(LC) = 0$).

- Underdamped solution (R < 2√(L/C), realistic for partial resistor):

$$i(t) = I_0 e^{-\alpha t}\sin(\omega t + \phi), \quad \alpha = \frac{R}{2L}, \quad \omega = \sqrt{\frac{1}{LC} - \alpha^2}$$

  - Derivation: Roots $s = -\alpha \pm i\omega$; general form from homogeneous ODE.
  - This gives oscillating current (ripples in energy/magnetic field), decaying exponentially—no blast, just waves radiating away (e.g., as Poynting flux or coupled to ground for quakes).
- In plasma terms: The oscillating B-field drives Alfvén waves (ripples) along the medium: speed $v_A = B/\sqrt{\mu_0 \rho}$, wavelength $\lambda \sim v_A/f$ where f=ω/(2π).

4. Tying to Seismic/Energy Ripples (Earthquakes/No Blast)

- If the trident "grounds" into earth/water, the damped oscillations couple to mechanical waves: Think wave equation with damping.

$$\frac{\partial^2 u}{\partial t^2} = c^2\frac{\partial^2 u}{\partial x^2} - \gamma\frac{\partial u}{\partial t}$$

(u=displacement, c=wave speed ~3–8 km/s for seismic P/S waves, γ=damping from resistor/medium losses.)

- Solution: Damped traveling wave $u(x,t) = Ae^{-\gamma t/2}\sin(kx - \omega t)$, with dispersion relation $\omega^2 = c^2k^2 - (\gamma/2)^2$.
  - Derivation: Assume $u = e^{st + ikx}$, plug in → quadratic in s.
  - Ripples propagate as decaying sinusoids (earthquake waves), but damping prevents amplitude buildup to a blast/shockwave.

The next bit of mystery tech to come out of the forge is the Helm of Darkness. The Helm of Darkness isn't a weapon but rather an ancient form of adaptive camouflage. Regular magnets can't bend light. It would require something much more powerful, like Metamaterials or the use of Rare Earth Elements (REEs) to trick the light into moving around an object. Light itself is neutral, but the static electricity of the air or medium through which it is moving through is susceptible to altering effects. Strong enough fields could twist the lights polarization through what we call the Faraday Effect. Embedded neodymium shards in fluorite could scatter or redirect visible light around you. It would create a bit of a darkness bubble, not true invisibility but enough to blur into shadows or make you look kind of ghostly. It's like making light flow around you, like water flows around a rock in a stream.

Here's the math;

1. Basic Plasma Interaction with EM Waves: Dielectric Response

Plasmas interact with light/radar via free electrons oscillating in the E-field. The key is the plasma's dielectric constant ε(ω), which determines if waves propagate, reflect, or absorb.

- Dielectric function for cold plasma (Drude model, ignoring collisions initially):

$$\epsilon(\omega) = 1 - \frac{\omega_p^2}{\omega^2}$$

  - Derivation: From electron equation of motion $m_e d^2x/dt^2 = -e E \exp(-i\omega t)$, current $J = -n_e e v$, polarization $P = -n_e e x$, then $\varepsilon = 1 + P/(\varepsilon_0 E)$. Solving gives the form above.
  - Here, ω is incident wave frequency (e.g., visible light ~4-7.5 × 10^{14} rad/s; radar ~10^9-10^{11} rad/s).
- Plasma frequency ω_p (cutoff where ε=0):

$$\omega_p = \sqrt{\frac{n_e e^2}{\epsilon_0 m_e}}$$

  - e = 1.6 × 10^{-19} C (electron charge), m_e = 9.1 × 10^{-31} kg, ε_0 = 8.85 × 10^{-12} F/m, n_e = electron density (m^{-3}).
  - In Hz: $f_p \approx 8.98 \sqrt{n_e}$ Hz (n_e in m^{-3}).
  - For radar stealth (f ~10 GHz): n_e ~10^{18} m^{-3} gives f_p ~10 GHz—tunable via helm's current to ionize air/gas.
- Behavior:
  - If $\omega > \omega_p$ ($\varepsilon > 0$): Wave transmits (plasma transparent).
  - If $\omega < \omega_p$ ($\varepsilon < 0$): Wave reflects/evanesces (like metal).
  - At $\omega \approx \omega_p$: Resonance—strong absorption if collisions added (damping term γ: $\varepsilon = 1 - \omega_p^2 / (\omega^2 + i\gamma\omega)$).

For Hades' helm: Tune n_e so ω_p matches visible/radar freq, absorbing instead of blasting energy back (damped via collisions, like the trident's resistor).

2. Absorption for Invisibility: Adding Damping

Real plasmas have electron-neutral collisions (rate ν ~10^7-10^9 s^{-1} in air plasma), turning reflection into absorption—no shiny giveaway.

- Complex dielectric with damping:

$$\epsilon(\omega) = 1 - \frac{\omega_p^2}{\omega^2 + i\nu\omega}$$

  - Derivation: Add friction $-m_e v$ dv/dt to motion eq, then $J = \sigma E$ with $\sigma = n_e e^2 / m_e (\nu - i\omega)$, plug into $\varepsilon = 1 + i\sigma/(\varepsilon_0 \omega)$.
  - Absorption coefficient α (intensity $I = I_0 e^{-\alpha z}$):

$$\alpha = 2\frac{\omega}{c}\Im\left(\sqrt{\epsilon}\right)$$

    (c = speed of light; from wave vector $k = (\omega/c) \sqrt{\varepsilon}$).
- For stealth: At resonance ($\omega \approx \omega_p$, ν small), α peaks—EM energy converts to heat/plasma kinetic energy. Helm's plasma layer (thickness d ~ cm, like aircraft sheath) absorbs >90% if $\alpha d >> 1$, making wearer "dark" (invisible by absorption, not bending). ft.nephy.chalmers.se
- Myth tie: "Helm of Darkness" implies absorption (blackbody-like), not mirror reflection—damping prevents blast (uncontrolled resonance heating/explosion).

3. Generating the Plasma Sheath: Z-Pinch Lorentz Tie-In

Like our trident/Z-pinch chats, the helm could use a pulsed current I through conductive prongs/alloys to ionize air via Lorentz-compressed discharge.

- Magnetic field $B_\theta = \mu_0 I / (2\pi r)$ (Ampère's law).
- Lorentz force density $f_r = - (\mu_0 I^2) / (4\pi r)$ inward (from $J_z \times B_\theta$).
- Equilibrium density n_e scales with I: From Bennett relation, $\mu_0 I^2 / (8\pi) \approx N k T$ (N = line density ~ $\pi a^2 n_e$).
- Tune I ~10^3-10^4 A (hand-held scale, via ancient capacitors?) for n_e ~10^{18} m^{-3}, cloaking radar/divine "sensors." For optical, mythical boost to n_e ~10^{30} m^{-3} (impossible, but perhaps quantum/Cyclopes magic).
- Stability: Add damping (like trident resistor) via resistive materials to avoid kink modes (growth $\gamma \sim v_A / a$, $v_A = B / \sqrt{\mu_0 \rho}$).

The use of REEs like neodymium in the Titan Forge significantly raises the bar on technology. The Helm of Darkness implies that the use of Rare Earth Elements was not unknown to the artists at the forge. The Greek forge is already known to produce not just weapons for Olympians, but it has a number of animatronic devices that get paraded about at parties. Like wind-up robots that even the ancient witnesses could tell it was just a fancy machine and not magic. One can assume that the gears and workings were apparent, thus the general consensus that it was just fancy engineering. So, if we take a forge skill level that can create fancy gear driven machines and now add the addition of Rare Earth Elements in the formation of MetaMaterials. The sophistication of the Titan Tech just increased 10 fold.

To wrap up the ten-year war, that was called the Titanomachy, the Olympians leveraged both their numbers and their superior technology to bring the war to a rapid end. It was a one-day Shock-and-Awe campaign.

Gigantomachy

After the Titanomachy, an unspecified period of time passes. Zeus and the other Olympians sire a bunch of children, like Athena, Ares, Hermes, Hephaestus, Dionysus, Apollo, and his twin brother Artemis. The Golden Age of Greece continues. But while things seem calm on the surface, news of the final battle made its way back to the rest of the Titan community. They had seemed to have been waiting to see how the family drama in the Mediterranean played out. When word of the shock-and-awe campaign of Zeus got back to them, the death of Menoetius and the treacherous punishment of his brother Atlas, shown to the survivors on Atlantis, was apparently enough to finally elicit a response. The Titans strike back.

Zeus had foreknowledge of the impending attack. Like a well-informed intelligence section, the Oracles of Delphi informed Zeus of what was to come. And like a proactive intelligence section, they had some suggestions. Zeus is told, by way of prophecy, that in order to win this battle, he has to recruit a half-breed into his ranks. The humans would have to have some form of hand in this battle to ensure Zeus's victory. Zeus has the perfect guy for the job already lined up. Hercules (the original Hercules) does indeed play a major and pivotal role in the war. Fighting side-by-side with Zeus in some battles.

A siege attempt on Mt. Olympus is made. The primary Titan weapon was, again, simple rocks, a straightforward frontal assault. They do appear to use "flaming trees' as an artillery-like projectile. And allegedly, an earthworks' is used to build up to the heights of Mt Olympus, perhaps like a siege engine attempting to get over fortification walls. However, the Titans, or in this case, they are simply referred to as giants, underestimated the defenses and firepower of Zeus and his Olympians. The giants attacking Mt. Olympus don't appear to be the well-organized military force that we should expect. The assault is repelled, and the giants' attacking forces are scattered in a forced asymmetrical withdrawal. The giants are basically routed and forced to flee in multiple directions. The assault on Mt. Olympus is a complete and catastrophic failure.

The main element of the giants' assault broke off the attack and was driven south toward Campi Flegri, Italy. Another element of the assault force is driven to the Aegean Sea. The Seaward fleeing element is led by a commander named Polybotes. He attempts to evade the Olympian pursuit with some his troops, presumably in the boats that they arrived in. They are headed toward the island of Rhodes near the Turkish coastline. They are pursued by Poseidon and his Trident. They make it just past the Island Kos, before they are literally buried alive by Poseidon. Legend says that Poseidon picked up a piece of the mountain and buried them with it. This burial site is now known as Nisyros Island. Given what we know about his Tridents ability to send disruptive waves, that are often mistaken for seismic activity, my guess is, that they sailed too close to a steep shoreline and Poseidon hit the mountainside with his primary weapon. The

resulting slide, rockfall or aquatic disturbance would have crushed them under the waves and rocks. The primary maritime escape route looks to be totally destroyed and cut off.

These attacking giants don't seem to be altogether familiar with this style of warfare. The Titans are no strangers to conflict. They've been involved in conflicts all along their ever-expanding exploration. For thousands of years, they have bullied their way around the known world. It seems that their intimidating size has led to the idea that various forms of saber-rattling and chest-beating have always been enough to win a battle. The fact that the Titanomachy lasted ten years, and consisted mostly of throwing rocks at each other, with no casualties, is proof of that. This is obviously not the case in the Gigantomachy. This is an entirely new era of war.

This draws a parallel from a more recent example in our history, in Africa. In 1816, a man named Shaka became the chief of the Zulu tribe in South Africa. Before Shaka, battles between the Nguni clans (which include the Zulu) were often ritualized and low-casualty affairs. Warriors would stand at a distance of 35-45 yards apart from each other and exchange taunts or throw long spear-like sticks at one another. Occasionally, an individual duel would be fought, or a light side skirmish may happen. Before long, the outnumbered or weaker side would retreat before any heavy losses could occur. For the Nguni tribes, "war" was more about posturing, honor, and minor gains. Casualties were always kept minimal. When Shaka came to power, he didn't abide by the old rules. Shaka changed the long ceremonial spears into shorter, broad-bladed, stabbing weapons called *iklwa*. He had his warriors use large cowhide shields to close distance with the enemy and engage in brutal, decisive, close-combat aimed at wholesale slaughter and the complete subjugation of the enemy. Shaka changed the weaponry, updated the tactics, and trained his warriors for a merciless slaughter of the enemy. Shaka wanted to play for keeps.

I feel that this parallel may equate to the Titans world view on warfare. They have succeeded for thousands of years with what may have been a more ritualized exchange of taunts and bravado. The sheer size and immense presence of 12-15-foot-tall warriors may well have been the deciding factor in many of their conflicts. When they've been killed in the past, it was usually due to a natural lightning strike, natural disaster, or the result of a long-running conflict with locals that the Titans eventually abandoned for new frontiers. But now they face a full-blooded Titan king, that is considered a god by the local population. It seems that Zeus wants to change the way the game is played, Shaka Zulu style. The Titans' counter-attack on the Olympians was not at all prepared for the disturbing realities of this new brand of warfare. This isn't some ceremonial theater aimed at establishing the eventual negotiation of a surrender. It's an all-out, merciless subjugation by wholesale slaughter. Zeus is playing for keeps.

The bulk of the giant's assault force has retreated to a position in Italy. Zeus doesn't let up and is in pursuit. Zeus leads the core Olympian force, including some demigod heroes like Hercules, onto the Phlegraean Fields, west of modern-day Naples. The Giants engage Zeus, again with basic

and rudimentary weapons like large rocks or flaming trees. But Zeus starts zapping people with the Keraunus. Hercules is sniping targets like Alcyoneus with poisoned arrows. Individual duels play out; Zeus blasts Porhyrion with a bolt, Hercules double-taps him with an arrow. Athena buries Enceladus. Hephaestus kills Mimas. Apollo and Hercules team up and take out Ephialtes. Hecate burns Clytius to the ground. Hermes borrows the Helm of Darkness and sneaks up on Hippolytus and kills him. Artemis kills Gration. The Moirai team up and kill Arguis and Thoas. The battle was vicious and savage. No quarter was given. The attempted counterattack of the Titans turns into an early version of the war of 1812. They attempted to retake control of the Mediterranean, it started strong but ultimately, they were defeated. Zeus and the Olympians are victorious.

After the war, we start to hear about the use of other Titan tools. One such tool is the use of canines. We have already heard about Laelaps, the working dog that helped protect baby Zeus. Canines that appear in the myths are Cerberus, the hound of Hades, and Cerberus's litter mate named Orthrus. Both are guard dogs. The Goddess of witchcraft, Hecate, had a whole pack of dogs associated with her. Orion the Hunter was known to have a hunting dog named Sirius. Those two are still together in the night sky to this day. Artemis, the goddess of hunting, of course, had hunting dogs. While these dogs are notable and remembered through the ages, they don't truly represent a militarized K9 Corps like the canines we saw in Scandinavia.

The bullroarers are not explicitly talked about in the mythology, but they remain linked to the Olympians. Dionysus Cult followers still use bullroarers, calling them a Rhombus. But they consider the object sacred, and its exact purpose is shrouded in secrecy. The bullroarers used to be used for communication, and now their purpose is considered a cult secret. Zeus liked to keep his Titan technology a secret. Even now, after 12,000 years, some things are still being kept secret. Zeus would approve.

Heart of Darkness

After the wars, Greece returned to its so-called, Golden Age. Agriculture, animal husbandry, and farming return to the daily routine of the locals. Life is good again. Evidence of the wide spread agriculture practices spread through the region. Even making it to modern-day Turkey, where the evidence of organized agriculture is found carved on the, over 12,000-year-old, megalithic stones of nearby Gobekli Tepe. It seems that Zeus, much like Bres in Ireland, is willing to leak out agriculture and animal husbandry secrets while keeping the good stuff about weapons, communications, advanced metallurgy, and magnetics to himself. Trade secrets.

Zeus is hosting continuous victory parties and holding high court on or near Mt. Olympus. The contentious drama that fills the mythology is, again, most contained within the halls of power. Zeus is overseeing the rebuild and, not unlike his father, is very leery of any potentially dangerous technology getting shared. He seems to almost jealously covet the Titan tech. Zeus is quick to punish any that share it. The advanced weaponry is treated like a state secret, and its proliferation is considered a national security issue.

After the Gigantomachy, the Titans' version of the War of 1812, the Giants plan a special operation to steal one of Zeus's thunderbolts. The Titan Revenge crew is looking to even the odds by taking some of the advanced weaponry and using it themselves. Typhon manages to sneak into Mt. Olympus and abscond with Zeus's Keraunos. Zeus, of course, is in hot pursuit. Zeus has spare Keraunos's and it becomes a running gun fight that stretches from southern Turkey to Sicily. In the end, Zeus is victorious, and Typhon is killed. This incursion only serves to steel Zeus's resolve in hoarding the dangerous tech. The Olympians' advanced technology and weaponry are considered extremely sensitive items, a state secret, that Zeus will kill to protect.

Prometheus was found guilty of sharing some form of technology with the local human population. The legends suggest that it was the gift of fire, however, that is clearly a vast oversimplification, as humans, Neanderthals, and even Cro-Magnons have been using fire for over 400,000 years. Given that the greatest secrets of Titan tech come from the Forge, the "fire secret" had to of had something to do with advancements in the fires of the Titan forge. Whatever it was that Prometheus blabbed about, it was probably something like; the addition of fluorite to a fire to advance metallurgy, or some other forge fire advancement. Zeus didn't want this technology getting out to the general public. Like his father before him, Zeus was paranoid about being overthrown. Prometheus has a history of flipping allegiances and running his mouth to the opposition; this "betrayal" was true to character for him. Zeus identified this and punished Prometheus for all eternity for it. Loose lips, sink ships.

As Zeus's reign continued, he seemed to become more and more tyrannical. One may suggest that he develops a heart of darkness, like Joesph Conrads literary character Kurtz. He is firmly

established as the king of the area, in fact, a literal god. Zeus begins delivering harsh judgments on anything he sees as an affront to his role as the leader of the gods of the Mediterranean.

When Asclepius shares too much medical knowledge, he is executed by Zeus with a single blast from the Keraunos. Zeus later laments the execution of the well-intentioned Asclepius and declares his martyrdom as worthwhile and, like a saint, renames him Ophiuchus. Ophiuchus is designated (posthumously) by Zeus as the god of medicine and healing. A constellation is dedicated to him. The constellation of Ophiuchus is now called the Serpent-holder. It is the largest constellation in the sky. In the modern Zodiac, it would be the 13th month in a lunar calendar. A cult of Ophiuchus was eventually created, and people would go to healing temples or an *asclepieia,* seeking cures. Today's iconic medical symbol of a staff entwined with single serpent is derived from Ophiuchus, it's called the Rod of Asclepius.

Others find themselves subject to Zeus's increasing wrath;

Phaethon takes Zeus chariot for a joy ride and crashes it. His punishment is execution by Keraunos. A single shot, and he is killed.

Bellerophon takes it upon himself to fly up and crash a party at Mt. Olympus. He is shot down. His wounds leave him crippled and blind, forever.

The king of the Lapiths, Ixion, makes a move on Zeus's wife Hera, for that, he is blinded and sent to prison forever.

Capaneus a heroic warrior boasted about be unstoppable, even by Zeus. Zeus strikes him down with a sniper shot from the Keraunos, killing him instantly, FAFO.

Niobe, the Queen of Thebes made rude comments about how she pumped out more kids than Leto, one of Zeus's baby mamas. She therefore boasts that she is better and more of a woman. For this act of "hubris" she is turned to stone forever on Mt Sipylus. Mt Sipylus is located on the other side of the Aegean Sea, modern-day Turkey.

The King of Sipylus, Tantalus, steals some Ambrosia and nectar from a party at Mt. Olympus that he had attended at the invitation of Zeus. He shared the stolen cocktail with his sons. He gets caught and bound to a tree and is starved to death. Don't bogart booze from the gods.

Lycaon, the king of Arcadia tried to trick Zeus into eating human flesh. This attempt at forced cannibalism leads Zeus to turn him into a wolf. Then Zeus flooded the entire kingdom, killing everyone there, to purge what he considered wickedness. Thus, the birth of the legend of the Lycanthropes or werewolves.

Sisyphus, the King of Corinth, was known to be a cunning and clever guy. Sisyphus called out Zeus for one his sexual escapades. He snitched on Zeus for abducting Asophus's daughter, the beautiful

Aegina. Zeus sent Sisyphus to prison, but he quickly escapes. He is returned to prison and sentenced to death, but he cunningly escapes again. He was a born survivor. The irony is, that knack for survival gets twisted into an eternal punishment. Sisyphus is cursed to push a large boulder up a hill every day, only to have it roll back down again, for eternity. The task that never ends.

The increasingly oppressive and tyrannical punishments from Zeus are drawing the attention of other Olympians. The literal god-complex and iron-fisted rule of Zeus is causing his supporters to become somewhat recalcitrant. The entire family on Mt. Olympus is feeling chafed under Zeus's absolute dominance, high-handedness, and general misuse of power. You might say they found his increasingly abusive leadership style "unsound".

The Hero of the Titanomachy and the Gigantomachy has become the villain in the eyes of the Olympians. A coup is attempted by Zeus's wife Hera, and one of his sons Apollo, possibly one of his favorite daughters, Athena. Even his former battle buddy from the two wars, Poseidon, is in on it. Just as Zeus started his rebellion against his father Cronus by poisoning him, with the help of his mother. Hera and Apollo slip a mickey into Zeus's wine, and he is chained to his throne while he's incapacitated. Also, like Cronus, Zeus doesn't totally succumb to the poison. He lives on, in his prison of a throne room. Word quickly gets out of the attempted mutiny, and Zeus's uncle Briareus, one of the Hecatoncheires, comes to his aid and frees him. This was a warrior that took his oath of fidelity seriously.

The expected wrath of Zeus is not what anyone expected. He doesn't really rage against the seditious conspirators, as we might expect. Hera is publicly hanged, to make an example of her, but she's not killed. She's released after stretching out a bit. Apollo and Poseidon are both giving light sentences of community service. Athena doesn't seem to be punished at all. The punishments for the attempted coup on Zeus are light or nonexistent. It's all extremely out of character for a guy that tends to execute people for crashing a party or simply talking trash.

What is going on? What might cause a radical shift in behavioral norms? Changes in the magnetic field around our planet can affect the brain. It's been nearly 12,000 years since the last cyclical disaster. At this time in Earth's history, the magnetic poles are shifting towards another flip. The movement of the magnetic poles stretches out the protective layering of our magnetosphere. The changes in the magnetosphere can affect the brain. The brain and its resultant neurochemistry are sensitive to the cascading effects of the electromagnetic perturbations. The increased solar particle bombardment and the weakening magnetosphere could have been the cause for Zeus's apparent personality change. The decision-making processes may be altered. Individuals experience different changes than others. Some may act a little more irrationally, while others find themselves feeling more spiritual in nature. With a change in the planet's magnetosphere. Behavioral patterns can change. Perhaps it may be broken down to something

as simple as: some start making better decisions, while others start amplifying or doubling down on bad decisions. Zeus's world is entering what one might call, clown world. It's happened before, and now, it's happening again. Time after time, after time.

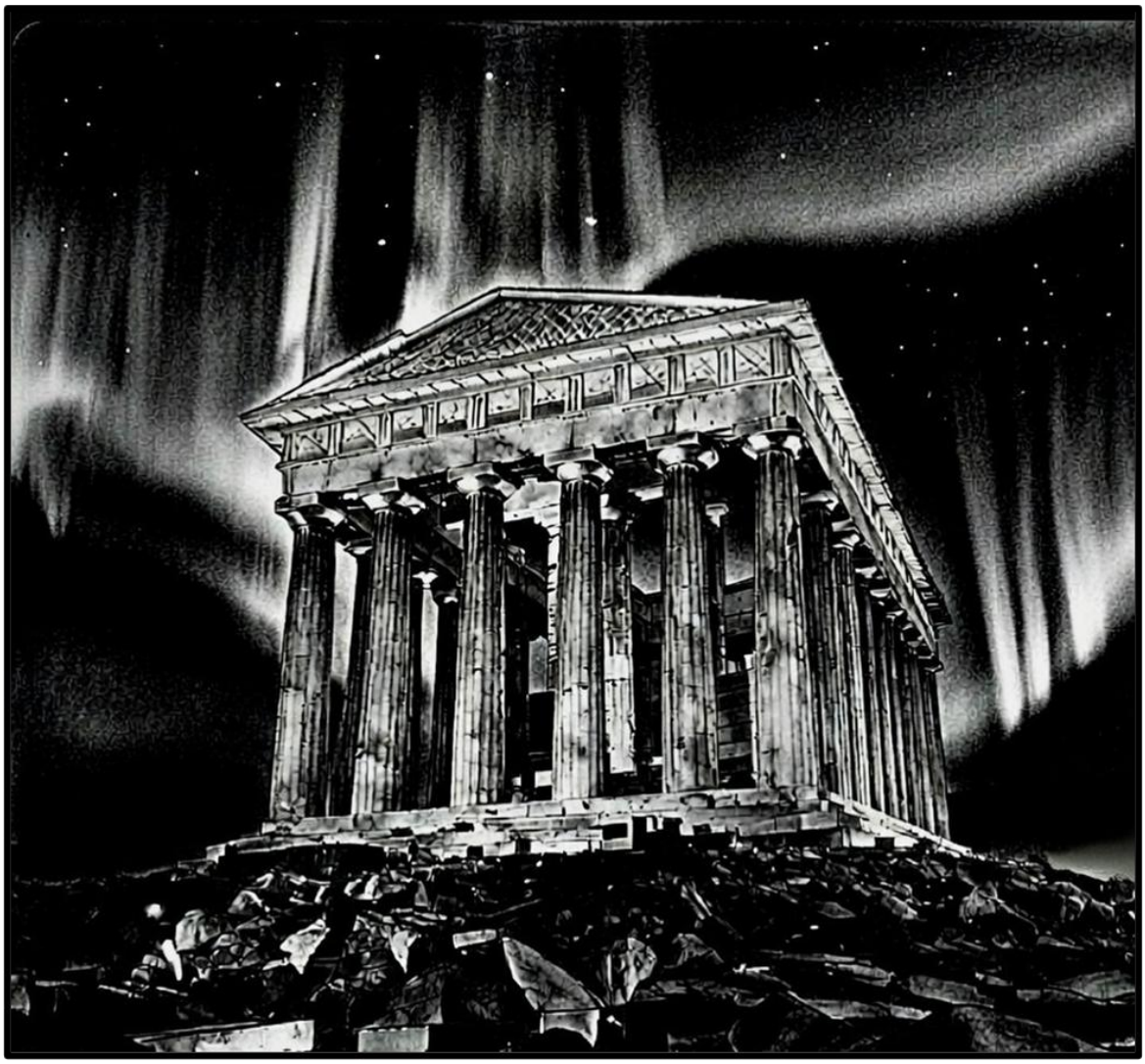
Ragnarök

Zeus's strangely divergent behavior may have another explanation. Maybe he knew what was coming. Maybe Gaia had told him the old stories. Maybe it was the Oracles at Delphi. Maybe it was all of them. Maybe, just maybe, he started to believe them. And maybe, that's why he didn't feel the desire to be all that wrathful in his dispersion of punishment. Zeus may have acted like he knew what was coming. And he knows that it's coming for everyone. All will be punished.

The galactic current sheet, with its reversal of polarity, is approaching the solar system yet again. The neurological effects of the increasingly hypo-magnetic environment have already begun to be felt, though probably not recognized. Marine life and migratory species start to show irregular behavior. Whales are beaching themselves, and birds are late to their respective breeding grounds. Plant pollination and reproduction is beginning to misfire sporadically. Even insect behavior becomes unpredictably erratic, as if entire colonies are suffering mass confusion.

The weather begins to change. Moderate storms begin to intensify in some areas, while normally stormy seasons may be calmer than usual. Unexpected droughts happen in normally wet seasons. Flash flooding may occasionally happen in times and places that don't normally experience such conditions. Seismic activity is on the rise. The gradual increase in earthquakes is accompanied by subtle, but noticeable, escalation in volcanic activity worldwide. The elevated amounts of ash and debris in the atmosphere from volcanic activity is starting to affect the weather too. Temperatures swing a little out of the normal ranges, both highs and lows. The winds pick up, and occasional gales blow with hurricane force. The uneven and sometimes unpredictable storm fronts are spawning tornadoes or waterspouts in places that are not used to seeing such phenomena. It's not all catastrophe yet. The changes that are happening are things that may have happened before, albeit, rarely. But the rare weather or geological phenomena are starting to stack up and become more and more frequent.

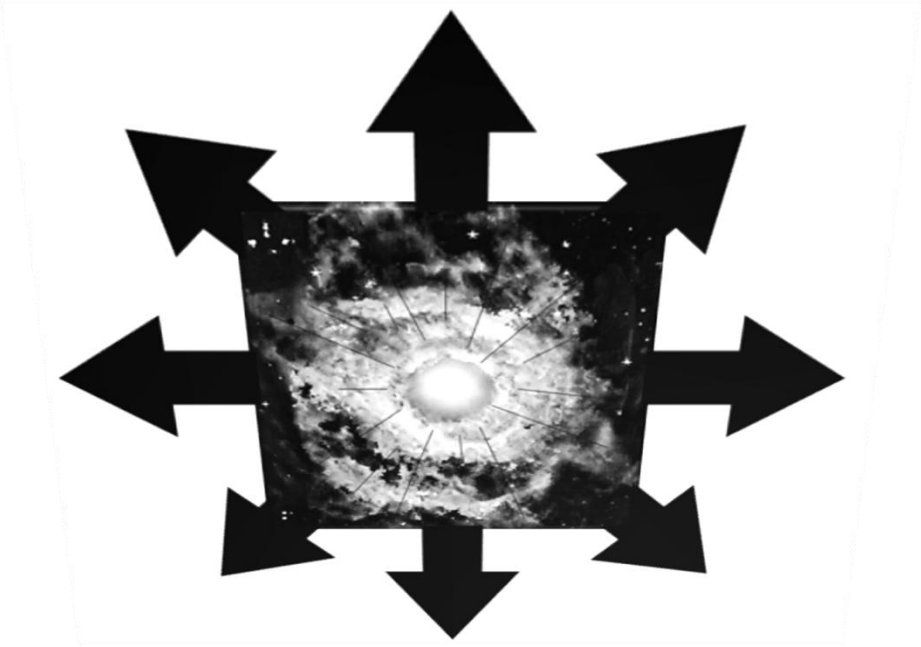
The Aurora Borealis, or northern lights, are starting to occasionally make themselves seen in more southern latitudes. It's subtle at first, but eventually becomes more and more common. The auroras are not something that early civilizations would have missed, nor ignored.



The older Titans would have heard of this happening before. They may have had stories or legends of their own, passed down generation after generation. The Oracles of Delphi, if they truly had any prophetic powers or psychic ability, may have known what was coming. The cycle repeats, as it has before. This is why the stories of Ragnarök are considered cyclical. The cycle repeats itself, each time with a new or modern twist, but it's still the same cycle. The names can change, the calendar looks different, but the story is the same. Time repeats itself.

As the final days approach, the back end of the Galactic Current Sheet begins to start dumping its collected material on the surface of the sun. The sun's color begins to noticeably change. It goes from the yellow-white to a more orange-ish color. Within a day or two, it has turned red. The weather gets bad as clouds gather and skies darken with more radical storms. If one has a spot of clear skies, they see the red sun turn brown, then almost black. The black sun only lasts a day or so. Nobody is watching the sky anymore; everyone has their heads down, just trying to stay warm, stay out of the winds, and survive. Then the sun demands everyone's attention again.

The sun's unstoppable energy bursts forth, blasting off the temporary shell that tried to smother it. The solar micro-nova is unleashed. It takes 8 minutes for the light to get here; the magnetic coupling of the sun to Earth has already happened. The radiation of all wavelengths is on the way. The skies change almost instantly. The dark sky turns bright. Even in overcast areas, the re-introduction of light is blatantly obvious. For those with a clear view of the sun, they'll see the nova shell remnants flying off the sun. The red and yellow shell mixed with dark shadowy patches expands out in all directions, leaving a turquoise blue center with a sun-sized white dot in the middle.



The earthquakes really begin, and the whole Earth seems to shudder and shake. Long-dead volcanoes wake up and emit their ejecta, be it gas, smoke, ash, lava, or a mixed bag of pyroclastic flow. Some skies cloud up with storms or volcanic debris, while others see their clouds vanish with a rapid progression of high-altitude wind shear.

The radiation hits the entire Earth like an invisible wave, permeating everything, passing straight through the planet. The crust, or surface of the Earth, is locked onto the upper mantle, or asthenosphere, at the crust-mantle transition area. The crust-mantel transition area is also known as a Low-Velocity Zone (LVZ). In some scientific circles, the Asthenosphere is called the Mohorovicic discontinuity, or Moho for short. The massive surge of solar energy will decouple this connection temporarily, unlocking the crust from the upper mantle. The planet core continues to spin, and it's locked into place with mantle by the asymmetrical shape of the planet's internal skeleton. The crust, however, now unlocked from the Moho, will begin to slide across the surface of the mantle. The heaviest parts of the crust slide out to the widest part of the planet's rotation. The equator is the widest part of the planet's daily spin due to centrifugal

forces. In fact, the equator is approximately 13 miles wider than the rest of the globe. The heaviest parts of the crust are the previous geographical poles. They have spent several millennia piling up miles of thick ice and rock. The old poles are unavoidably getting pulled towards the equator. Eventually, the old poles find themselves settling into a new position directly, or nearly directly, on the equator.

The electrostatic forces of the micro-nova impact affect the literal oceans of water that are contained sub-surface inside the mantle. Water could pump up, uncontrollably, out of newly formed fissures and cracks in the crust. Random areas that are far from known water sources may start to flood seemingly unexplainably. The lightning exchanges between the Earth and the electromagnetic forces that are assaulting the planet. They start wildfires that run unchecked all over the globe. The uneven heating and cooling events all over the planet generate wicked winds of epic proportions.

The shifting of the crust causes catastrophic flooding events along the shorelines of every continent. The lakes, seas, and oceans all surge up one side of their shoreline for hours on end. It's like a tide that rises and rises, never seeming to want to abate. Some areas experience a rising water level that continues to cover and smother everything. Some coastlines experience a riptide that tears away, relentlessly, in a single direction. Other coastlines find the water disappearing, receding out into the distance as if the ocean were being rapidly drained.

Then the crustal shift stops. The electromagnetic forces affecting the low velocity zone, or Moho, begin to fade, and the crust locks into place. The water that been surging up onto the surface now finds itself subject to gravity. The flooding oceans stop their inland intrusion and begin their rapid return to the basin from which they came. Everything that was swallowed by the water and covered by debris and silt, now gets the backwashing effect of having the gathered debris dragged back over it again as the seas retreat. The rapid erosion effects carve out new forms in the landscape.

The shorelines that experienced a riptide in one direction suddenly get the opposite effect. The riptide changes directions, and the water surges along the coast in the opposite direction with even greater speed and velocity. The shape of the coastline gets adjusted as water and debris rack against it. The back and then forth scouring of the shorelines is like sandpaper against a model globe, potentially altering it forever.

The coastlines that saw the water recede away into the distance, leaving nothing but exposed rocks and fish flapping in the mud, now hear an ominous roar. The dull roar is accompanied by increase in the offshore wind. The horizon starts to shift abnormally. The peculiar horizon starts to take shape, as the slosh-back wave comes into focus. A true tsunami bears down on the select

coastlines and crashes into the landscape with devastating force. The speed, force, and velocity of this slosh-back tsunami is map changing in its destructive power.

Crustal heaving takes place while the crust slips and the oceans surge back and forth. Some plains or mountain rise in elevation, others fall. The boundaries of the tectonic plates push against each other. Exposed continental shelves get battered by the surging oceans. Mountains ripple; rocks break, and new outcroppings of exposed mineral veins get exposed.

The lowest part of our magnet field shell is called the Van Allen belts. You can't see them, but they are constantly there. The solar energy pushes down against them with great force during this event. The result is a great electrostatic discharge. This is called the Arc-Discharge. It's akin to a massive lightning strike of biblical proportions. It has canyon carving capabilities. It is essentially a plasma impactor that rivals a large meteor. We'll discuss this colossal ordnance and its effects in more detail later.

Parts of the suns' blown off shell may impact the Earth in the form of a congealed plasma. This shell was extremely hot as it was blown off the surface of the sun. In the time it took to travel towards the Earth, it has cooled down to the ambient temperature of the space it transited. It's now a congealed blob of scattered plasma fragments that are near absolute zero in temperature. Any piece of these fragments, that makes it down to the surface of the Earth will flash freeze anything it happens to land on, like a woolly mammoth mid-meal.

This specific cataclysmic event, that happened roughly 12,000 years ago, is known by different names. The magnetic excursion is called the Gothenburg event. Evidence of impactors and climate change is called the Younger Dryas event. Really, they are the same event.

In Greece, Zeus is allegedly sitting on top of Mt. Olympus. The altitude is high enough to escape the surging Aegean Sea. The Aegean would have surged inland, overcoming the Thessaly plain and inundating the interior of Greece. The waters may have washed completely over the entirety of Greece and connected with the Adriatic Sea, now a partially empty basin. The Adriatic Sea has done the same thing to the Italian peninsula and connected with the Ligurian Sea, which has in turn started flooding over the coast of modern-day southern France.

On top of Mt. Olympus, the winds, at that altitude, would have been unforgiving. The seismic activity would have shaken any structure at its foundation. The volcanic activity in the Mediterranean would have been horrendous. The volcanic plain of a battlefield known as the Phlegraen Fields or Campi Flegrei, would be belching ash and steam together in tremendous amounts. Mt. Etna in Sicily would have been sounding off. And Mt. Thera, today known as Santorini, would have given everyone a little preview of what it had in store for the Mediterranean later.

The Spartel bank, just off the coast of Morrocco suffers catastrophic liquefaction. The entire land mass that had stood guard over the Strait of Gibraltar for probably over a thousand years is subdued by seismic shaking and the waters rushing through the Strait, out of the Mediterranean and into the Atlantic. The entire guard post gets washed clear and sinks beneath the waves.

The Horseshoe Islands, which I believe was “Atlantis”, has a bit more of a solid geological structure to the ring of islands. Just the same, the entire ring gets absolutely wrecked by the violently sloshing Atlantic Ocean. The island chain's position off the coast of the Iberian Peninsula allows it to be the victim of ocean surges from both directions. It first feels the surge of waters pushing up from Morocco, overwhelming and flooding the entire chain. Then the returning slosh-back, coming from the now North Atlantic Ocean, hits the island chain in full force with a devastating tsunami. The wave peaks may have overshadowed the mountain peaks. Nothing living on those islands had any chance of survival, not even our Titans.

On the Atlantic-facing shores of Morocco, the Atlantic's fury comes raging back. After the water had receded temporarily, it now comes rushing back with the slosh-back wave. The slosh-back wave, after making short work of Atlantis, pummels the coastline, killing everything as the waters race up the foothills of the Atlas Mountains. The only hint of survivors is found in the rock art at Tassili n'Ajjer, high in the mountains, near the Algerian border. This crude but legible work depicts the great waves that decimated the lower lands.

Neighboring Algeria offers some more scientific evidence of the disaster. The Ahnet-Mouydir basin, near the central Sahara, Mining cores have revealed marine ostracods (single celled ocean living microorganisms) and foraminifera (tiny ocean shrimp) in layered lake bed geology dated 13,000-12,000 years ago. These have ocean dwelling skeletons found in the middle of the desert have been dated with the latest scientific methods, including thermoluminescence. Soil samples from deep in the Algerian desert show a sudden shift from freshwater influence to a temporary hypersaline or saltwater influence. Also, in Algeria the Hoggar Massif wadis show "anomalous marine incursions" in sediments that are dated to about 12,800 thousand years ago. As late as 2024-25, remote sensing (Landsat/Sentinel) spotted buried channels with marine traces; these, most likely, do not just show the surge in, but also the drainage pathways back out towards the Mediterranean.

Tunisia is not spared. The Mediterranean sloshes back over all of North Africa. Lake Tritonis, or modern-day Chott el Djerid, had some paleo-lake studies done in 2020. Cores show not just millennial cycles, but salt expansion buckles and ocean marine life in layers dated between 12,900-11,700 years ago. Prior to that, the layers show freshwater mollusks and marine life. Lake Tritonis was a freshwater lake that flooded and partially filled with debris, then turned salty and shallow. After the waters receded, the entire area started to dry up and became the shallow, salty reservoir that it still is to this day.

Herodotus, Diodorus, and Apollonius all claim that Lake Tritonis as a vast, fertile freshwater lake at the Atlas base; some legends claim it was the birthplace of Athena, and even a home to Amazons. Some myths blame an unspecified catastrophe for its destruction. Diodorus says earthquakes tore it toward the sea, "parts toward Okeanos torn asunder", turning fresh into salty. When Jason and the Argonauts made an unscheduled stop by the old historical location, looking for libation, they found it salty and undrinkable. They probably gave it: 1 star, would not recommend.

Libya used to have numerous freshwater basins and lakes. The entire region was destroyed by the slosh-back wave. There are no myths about the great deluge in these regions because there doesn't seem to be any survivors. The southeastern basins and the Fezzan Mega-Lake were massive freshwater hubs before this storm hit. Core samples from Wadi al-Ajal, Coastal Sirte

Basin and Garabulli show sudden salinity jumps about 12,000 years ago, with marine life from the sea in blackish organic bands.

In Egyptian history, "Flood" stories permeate their history. They are a culture that has lived with annual floods from the Nile for thousands and thousands of years. Their soil samples show a mix of flood deposits that stretch back as farther than the language. As long as there has been a Nile River there have been floods in the region. Floods were the central theme of their history. To find the evidence of the solar-induced storm from 12,000 years ago, we have to go to the very beginnings of their mythology. The *Nun*, a wet, primordial chaos. In Egyptian creation myths, the world emerges from *Nun*, a vast, formless, dark, boundless, watery abyss that predates everything. The *Nun* covers the entire Earth. To the Egyptians, it's not considered a destructive flood wiping out civilization; it's the pre-creation state. Infinite waters soon receded, and a mound rises for the first gods/humans. The very first of these was Neith, sometimes called Net. Neith was said to be present in or having emerged from the primordial waters of the *Nun*. Neith was worshiped as *the* creative power and mother of creation, that went on to give birth to Ra, the sun god. It seems that the only flood myth about the 12,000-year storm in Egypt is the creation myth itself. All before that got wiped away by the slosh-back wave, and ancient Egypt rose from the floodwaters with the help of Neith.

Interesting side note: Neith/Net is often considered the same person as Athena. As Athena was allegedly born in Tunisia, by Lake Tritonis. She then fought, next to her father, Zeus, in the Gigantomachy. She could have returned to her home in Tunisia to avoid the Heart of Darkness drama happening at Olympus or to escape persecution after the failed coup attempt. She would have watched North Africa get destroyed by the flood while seeking higher ground in the Atlas Mountains, which was known to have scant survivors of the flood. She then could have migrated down the coastline to the Nile and set up a new civilization. That could be the start of the Egyptian civilization, post-Nun. Or it may be that the archetype for Titan females is so widespread that the two entirely different women just got confused for each other by the mythologist. The theme of female Titans being warriors with wisdom, creation, and weaving stretches across many mythologies, and many centuries, for many Titan women. The Fomorians in Ireland had Cethlenn, the wife of King Balor. She was prophetic in her predictions of the second battle of Mag Tuired, which she also fought in. The Titaness Brigid of the Fomorians was known for weaving and wisdom. Yoma the “Iron Woman” of the Ural Mountains, was not just an accomplished warrior but, in fact, the commander of forces in the region. Odin's Mother, Bestla, was a wise giantess. The three Jotnar Fates that weave the fates of all, were wise Titanesses who turned the role of weaving into a full-time gig. The Jötunn giantess Skadi was the goddess of hunting and was known as a skilled archer. Very often both Athena and Neith are symbolized by crossed arrows. Like they say, “You know, you all look alike”.

In Scandinavia, the initial surge of water is from the Gulf of Bothnia. But it's only impactful to the immediate coastlines and foothills near there. The water draining away from the Norwegian coastline would have been more alarming. The waters on the Atlantic side would have been drifting away rapidly. At the same time, the Icelandic volcano, named Katla, was blowing its top. The fallout from Katla blankets Scandinavia with ash. The winds whip across the landscape with the terrible storms. Lightning crashes, from more than just Thor's hammer. The final battle of Ragnarök is well underway, heroes and giants' alike fall. The ash, smoke, soot, and sparks fall with them. Then the water rushes back across the Barents Sea in a devastating slosh-back wave, smashing into the coastline and wiping the battlefields clean. After the water recedes, re-scrubbing the landscape, and the war is over, the ash continues to fall, leaving a permanent layer of ash on the soil, still 9 inches thick in some places.

In North America, the story gets even worse. Several volcanoes begin erupting. Mt Edgecumbe, near Sitka, Alaska, has a major eruption, dropping ash layers 3 feet thick. Newberry Volcano in modern day Oregon also erupts. Other minor explosive maar events happened across the west coast of North America, like in Clear Lake in California, and a cluster of minor volcanoes that came to life near Zuni Salt Lake in New Mexico.

The Atlantic Ocean started sliding away from North America, it surged into the Northern Brazilian coast and into the South Atlantic. The Gulf of America surged over the Yucatan Peninsula and Central America. The Gulf would have swept across all of the Caribbean islands and over Venezuela. The Pacific Ocean was surging from Alaska down towards Baja. The increased water levels flooded up and over the coastal ranges on the west coast. The waters seeped through gaps in the cascades and all the way into the Great Basin area of modern-day Idaho, Nevada, and Utah. The Great Salt Lake gets recharged with saltwater that has no drainage path out. The California Central Valley, likewise, gets completely swamped by the floodwaters, but it has an easy outlet in the San Francisco Bay Area. The Great Lakes come jumping out of their normal boundaries and flood south. Some pro-glacial lakes break free of their icy confines and join the initial flood southward. The entire Mississippi river valley is flooded, as are the Ohio, Illinois, and Missouri River Valleys. Any Titans near the rivers need to head for higher ground.

The weather is in extremis mode. Great tornadoes rip across the Great Plains. Thunderstorms and powerful winds mix with volcanic ash and send everybody looking for cover. Lightning is sparking wildfires at an unusually high rate, and the wild winds are driving those fires across the landscape. Then the crust stops shifting, and the slosh-back wave makes its ugly assault on the continent. The Gulf of America's shallow shores get dredged up and dropped all across Texas. The mud can be over 70 ft thick in some areas, burying sites like Rock Wall, Texas, in deposited debris from the monster wave. The east coast of America gets smashed by a northward oriented tidal wave of terrible velocity. The Appalachian Mountains aren't high enough to stop the fast-

moving, churning wave of water. The Pacific Ocean sloshes back with vengeance. Mexico's Pacific-facing side gets violently inundated with the waters, also rushing up the Gulf of Baja and invading the desert southwest. The Zuni Salt Flats are covered with ocean water, and the Sultan Sea of Southern California is recharged. The west coast gets a surge of fast-moving water that zips up the coastline like a zipper ripping large chunks of debris away from the coastline and out to sea. The west coast wave crashes into Alaska with full force. The wet bedlam that was Beringia, gets absolutely wrecked by violent waters. They flood completely over the entire land mass, churning and stirring everything up and over, ultimately depositing some of it into the Arctic Ocean.

Before the Titans found refuge in the "Iron Hills" known as the St. François mountains. But it doesn't work as well this time. The flooding waters of the Atlantic Ocean have pushed over the Appalachian Mountains on one side. The Gulf of America has made its way up the Great Plains on the other side. The landfall and loss of elevation from the previous cycle, which made the fracturing and exposing of rich veins of material, has now made the entire site more vulnerable to the floodwaters. For the Titans, there is nowhere to hide this time.

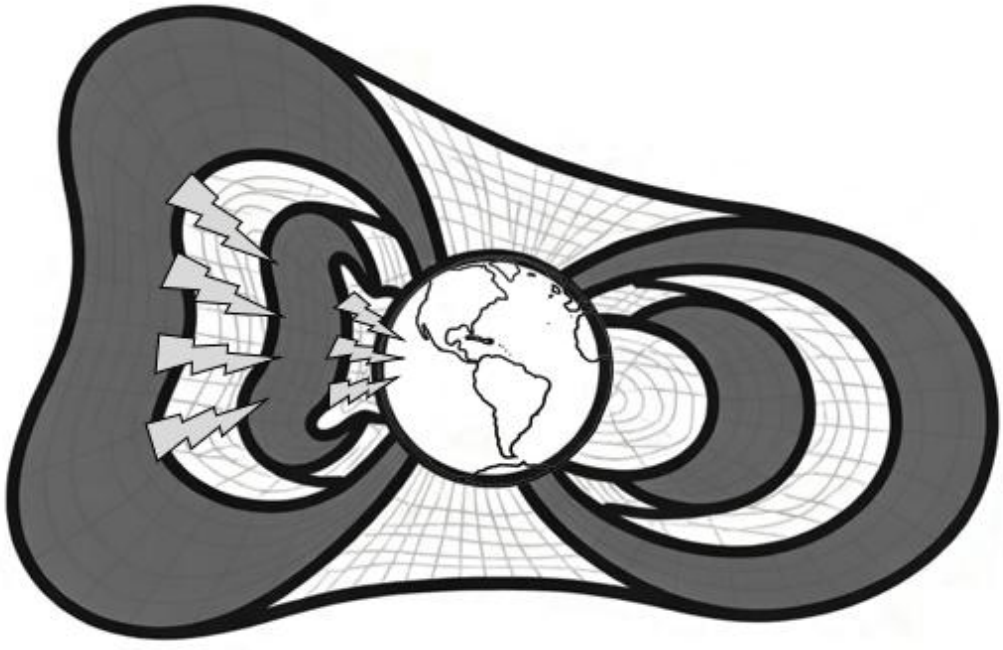
Then it gets worse. On this particular cycle, the Arc Discharge has picked North America as its target. The Van Allen belts, in the lowest level of our magnetosphere, get squeezed so closely to the Earth's surface by the micro-nova and its expelled, congealed plasma shell remnants, that a humongous discharge of titanic lightning erupts. This explosive outburst is centered on the Canadian Archipelago. North America, its landscape, and both its flora and fauna are in for a nasty Coup de main. A solar sucker punch traumatizes the entire continent.

Arc Discharge

The Arctic Archipelago of Northern Canada was a slightly different-looking region then than it is now. It was filled with pro-glacial lakes, melting glaciers in deep canyons, rivers of meltwater, mixed with patches of grassland, forests, and jutting peaks. It was a patchwork of varied landscapes.

The Arc Discharge is a high-current, high-temperature plasma channel that forms when a massive electrical potential difference drives breakdown of a gas between two regions of opposite charge, creating a self-sustaining, luminous, conductive filament of ionized matter. In other words, lightning. The discharge self-organizes into a bright, constricted column due to magnetic pinch. Ironically, the self-generated azimuthal magnetic field from the current squeezes the plasma inward, like a Z-pinch. The same zenith of Titan weapon technology is fundamentally used by the micro-nova to destroy the home base of the Titans. Funny how things happen like that.

The Sun ejected a massive shell of charged material, compressing Earth's Van Allen belts, already filled with relativistic electrons and protons, into an overloaded capacitor-like configuration. The belts' stored energy, in the form of trapped particles gyrating in Earth's dipole field, suddenly discharged through the magnetosphere-ionosphere system, channeling a gigantic plasma arc towards the surface. The Arc, or possibly multiple filamentary arcs, focused on the geomagnetic weak spot we now know as the Hudson Bay.



There is a significant voltage drop. Initially megavolts across the magnetosphere-ionosphere gap, dropping to tens or hundreds of kilovolts once the arc stabilizes, essentially a giant lightning bolt. The event strikes quickly with no warning. It only lasts seconds but may produce some afterglows and secondary discharges as the system rings down. The discharge has a structure that is filamentary and braided, with possible helical twisting from the Earth's dipole field.

The arc doesn't hit a uniform surface; it encounters a chaotic mix. The targeted area was a patchwork of mixed media. The impact would have hit the freshwater lakes, the ice sheets and remnant glaciers, the grasslands and trees alike. Based on the timing of the Arc Discharge, it may have impacted against a surface being invaded by surging salt water from the Arctic Ocean as well. Each of these surfaces would affect the telltale signs of the arc's impact.

The core of the arc reaches temperatures of 10,000–1,000,000 Kelvin. This immense heat results in the instantaneous ignition of anything combustible within miles of the main channel. A scaled-up Arc-Discharge of this magnitude would almost certainly spark massive, widespread wildfires, both locally, around the Hudson Bay impact zone, and potentially across much of the Northern Hemisphere. It wouldn't be subtle. Locally, the arc's heat pulse vaporizes ice and super-heats air, creating fire whirls and pyro-cumulonimbus clouds that loft embers hundreds of miles. Molten rock droplets and hot plasma fragments rain down, acting as thousands of individual ignition sources. This matches the idea of the Carolina Bays as secondary impact points with associated fire or char evidence. The micro-nova's charged particle dump, along with its atmospheric ionization, creates a global "plasma haze" that enhances lightning everywhere. Lightning has long been the Achilles' heel of the Titans. Additionally, the worldwide increase in lightning would result in sparking more wildfires. The hemisphere-wide effect can be seen in charcoal peaks in Greenland ice cores, North American sediments, and even European sites. The blast effects of the Arc Discharge could have been felt, even seen, by Odin during Ragnarök.

The Arc-Discharge also creates a shock wave. A concussive blast so powerful that it's akin to a nuclear blast or an airburst meteor. The blast would level everything for miles around the impact sight. Entire forests are flattened. Any living thing near the site would certainly be killed. The shock wave would carry through any water, with even greater effect than it would in the air. What remains of the Laurentide Ice sheet gets completely destroyed in the shock wave and an explosion of electricity and ice. The blast digs all the way down through the glacier and deep into the bedrock. The debris from this colossal explosion gets sent over a thousand miles away. The Carolina Bays, which are elliptical depressions from impact craters, reveal a debris field of extremely large size that extends from the Great Plains, to northern Florida and up the east coast. Since most of this colossal debris was ice, it has long since melted away, but the bays sometimes contain molten rock droplets. In Pennsylvania and New Jersey, those small droplets match Quebec

bedrock isotopically, suggesting that impact craters contain ejected material from Hudson Bay, Canada. The Hudson Bay is an impact crater. It was, at least partially, created by an Arc Discharge.

If the blast didn't kill the Titans, the debris may have. If the mountains of falling debris didn't get them, then what comes next might. The Pro-glacial lakes are now all broken free from their ice dams by the tremendous explosion. The cataclysmic reverberation from the Arc Discharge would have been so shocking, that it would free all the water trapped by the ice dams. Lake Missoula breaks free from the Cordilleran ice sheet, carving the Channeled Scablands in Washington State. Lake Agassiz is unleashed from what remains of the Laurentide Ice Sheet. Lake Agassiz was considered the largest freshwater lake, at 273,403 square miles in size. This water flooded into the Great Plains, down the Mississippi River Valley towards the Gulf and out to the Atlantic Ocean. It certainly would have flooded the lower St François Mountains. The ancestral homeland of the Titans was destroyed.

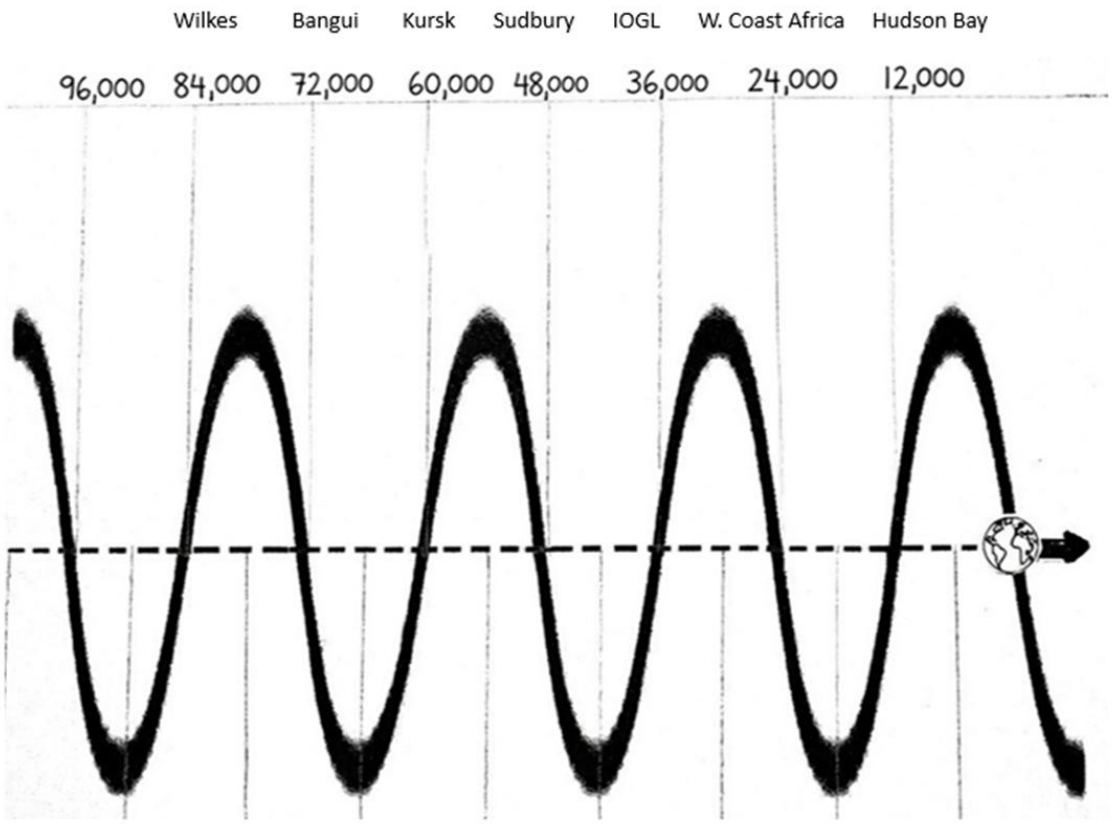
Further evidence of the Arc Discharge forming the Hudson Bay can be found in the magnetics and gravitational anomalies that are found there. Hudson Bay's got a whopping negative gravity anomaly, meaning if you stand there, you're pulling about 0.005% less weight than physics says you should for that spot on Earth. Most scientists attribute this to isostatic rebound, meaning the ice was heavy, and it pushed the Earth down too far, but the anomaly is not perfectly symmetric, nor is it fading evenly. It has sharper drops in some spots and lingering mass deficits that don't

match pure isostatic math. Plasma arcs can alter local density by ionizing materials, this creates a lingering "missing mass" effect. This “missing mass” effect can mimic rebound, but with a twist.

The Hudson Bay magnetic patterns don't perfectly overlay the gravity ones. Today’s Hudson Bay is a mosaic of magnetic highs and lows, with paired positive and negative stripes running through the bay. Plasma channeling mega-currents, like an Arc Discharge, re-magnetize rocks unevenly based on what they strike. If the strike hits ice, there is minimal magnetic trace as the ice melts or vaporizes. If the lightning hits the water, the water conducts the arcs into branching lightning patterns, this scrambles the local fields. If the Arc Discharge hits the ground, rock and soil get thermally re-magnetized or fractured. This created those sharp positive/negative pairs that scientist see today. It’s like state-sized electrical burns on a very large circuit board. The non-uniformity of the discharge signature fits perfectly. Where the discharge is grounded on exposed rock, you get strong magnetic resets. Where it hits ice or water mixes, the anomalies fade or scatter. Like the missing altar stones from the snake effigies, we find ourselves tracking the magnetic shadow of what used to be.

The Hudson Bay isn’t alone. The Arc Discharge impact sites are present in each of the 12,000-year cycle events. We can trace the solar micro-nova’s compression of the Van Allen belts back over 80,000 years. These scars mark separate arc blasts that occur cyclically every 12k years.

84,000 years ago, the arc discharge scar can be found near Wilkes, Antarctica. The Wilkes site (70’S, 120’E) is an ice buried gravity low. 72,000 years ago, the arc discharge impacted Bangui, Africa (4’N, 18’E). The Bangui site is now a jungle covered magnetic anomaly. 60,000 years ago, the arc discharge impacted Kursk, Russia (51’N,36’’E). The Kursk site has intense magnetic anomalies in its iron-rich shocked rocks. During the Laschamps1 event, 48,000 years ago, Sudbury, Canada was hit, and it left sign of an ore crater at (47’N, 81’W). 36,000 years ago, during the Mono Lake event, the arc discharge impacted in the Indian Ocean (5’S,80’E), leaving what’s called the Indian Ocean Geoid Low (IOGL). The IOGL impact site still has the anomaly of Earth's lowest gravity as a remnant of the impact. The IOGL has always been considered an underwater gravity hole. 24,000 years ago, during the Lake Mungo event, the Atlantic Ocean was hit just off the West coast of Africa (15’N,15’W), leaving behind a transient ocean glitch. 12,000 years ago, during the Gothenburg Event, the Hudson Bay area (60’N,86’W) was targeted. The mixed medium of the impacted Hudson Bay area gives us our well-documented variety of remnant evidence, including the Carolina Bays as evidence of the impact’s debris field. The Younger Dryas Impactor was an Arc Discharge.



The physically devastating impact of the arc discharge isn't the only effect of the compression of the Van Allen belts. Electromagnetic (EM) forces can cause uplift of the oceans of water held in the mantle. Intense EM fields could induce upward fluid migration, like pumping water through pores of the Earth's soil, against gravity. Most of the mantle's water is allegedly held in porous minerals like ringwoodite. When this water is pulled up by the enormous EM fields of the arc discharge, it leaves a cavity below where the water used to be. This, in turn, results in landfall and sinking in the crust over these collapsing and compressing voids. The evidence of these sinks is evident in the gravitational anomalies present in the arc discharge impact sites. The Hudson Bay has a mass deficit of 30-50 million gallons of expected material from rebound. The entire Hudson Bay impact site lost about 1.8 miles of crust, while the mantle directly below it is unusually denser than expected. The Indian Ocean Geoid Low (IOGL) shows a loss of about 50 million gallons of expected material. This deficit is directly below the impact site in its perspective mantel, and it potentially caused a 348-foot dip in sea levels. The Bangui impact site has a missing 120-million-gallon low-density crust and mantle boundary scar, which creates a subsidence in the

Congo basin. The Wilkes impact site in Antarctica, from 84,000 years ago, still shows 300 mile low under the ice that creates a gravity dip caused by a void collapse. The Arc Discharge doesn't just leave scars on the landscape; it can divot the crust while simultaneously pulling water out of the mantle. It leaves behind magnetic scars that run so deep they leave behind gravity anomalies.

The Arc discharge impact sites may seem random, but they fit into a pattern of latitude and longitude on a moving target of the globe. The Earth's crust is shifted around 90 degrees every 12,000 years, and the planet is in a constant rotation. The arc discharge happens while the crust is in free slip mode. The impact strikes the moving surface on whatever happens to the sun-facing side at the moment. The pattern still falls within a 10-28 degrees pattern of regularity in association with the 90-98 degree of crust slippage. When mapped out, the impacts going back over 80,000 years all fall within the expected impact areas. The matches are too close for coincidence. We have a cyclical pattern of arc discharge impact craters.

Only scant survivors now exist of the once proud Titan culture near Pea Ridge. The Empire is gone, and the survivors find themselves dropping back on old habits. Cannibalism becomes a viable option again, as it once was, so long ago. Small groups of Titans may venture out on their old stomping grounds, looking for other survivors. Occasionally feeding on local Native American tribes when they have to. But the human tribes are also smaller in number. The entire Clovis culture seems to have been completely knocked out by the storm.

Much of the animal life that the Titans were used to is gone now too. Most of North Americas mega fauna are now extinct. The once magnificent herds of Woolly Mammoths and Mastodons are gone. The giant Sloths and Stag-Moose are missing. The great cats are not around anymore. Only the Mountain Lion seems to hide in the high country. The vast herds of Horses and Camels are completely wiped out. The Dire Wolf and Flat-Faced Bears are gone. Several species of birds don't fill the skies with their songs anymore. The landscape is different. Entire forests are gone. The entire map is different, potentially unrecognizable. It's emptier than it used to be. It's quieter than it used to be. It's lonelier than it used to be.

Survivors

The cycle has ended. Ragnarök has completed its destruction, and the survivors are left to pick up the pieces and start all over. The Æsir and Vanir tribes of Norsemen have to begin living again, without the Jötunn or frost giants to contend with.

In the Mediterranean, after the storm, the silence is deafening. We don't hear from Zeus or the Olympians anymore. No royal decrees, no dramatic posturing or wars, only silence. Once in a while, people will attribute some event to the gods or claim that something was the "will of Zeus". But nothing else is ever heard from Zeus himself. Its seems that the Olympians are gone. It's radio silence.

Athena, Neith, or Net seem to be the only potential survivors in the Mediterranean that are noted in the legends, and they are starting over in a new location. Scandinavia is wiped clean after Ragnarök. The Arctic Ocean shoreline is washed away and freezing up fast. The Bay of Biscay is hundreds of feet deeper. Doggerland is reduced to the isles of England and Ireland. The land mass of Beringia is reduced to the Bering Strait. The American point of origin is all but gone. The trail seems to have gone cold.

This trail of the Titans has been a geological journey of coastal migration and expanding empire. We first searched for copper and magnetite. And everywhere we found it on the coastal migration route, we found the Titans. The Titan culture was one that centered around fire and magnets. The reckoning of sexual and social interaction with humans seemed to match the complementation of other materials in their forge. Their minds started to expand with the cultural assimilations with whoever the local population was. Their technology started to expand when they discovered the advantages of incorporating other elements like apatite, fluorite, or the aptly named Titanomagnetite, into their works. They learned how to make and refine their own magnets out of hematite. Soon thereafter, we find evidence of them using finer materials like Neodymium and possibly; Samarium, Dysprosium, Praseodymium, Terbium, or Gadolinium. Most geologists would list this material as Monazite and Xenotime. These REEs are much harder to find and harder yet to identify. But as luck would have it, they can be found exposed, on the surface of Earth, at the following locations; Greece, along the Northern Aegean coast near Mt. Olympus. Scandinavia, near Mt Kiruna, in Sweden. Missouri, just south of St. Louis in the St. François Mountains, near Pea Ridge. And, in the Zagros Mountains near ancient Persia, modern-day Iran.

The Titans have a history of setting up their camp when they find an exposed outcropping of the desired minerals. But they don't stop there forever, the exploration is always going forward. After they found good deposits in the Verkhoyansk Mountains, the culture didn't stop. They sent a unit

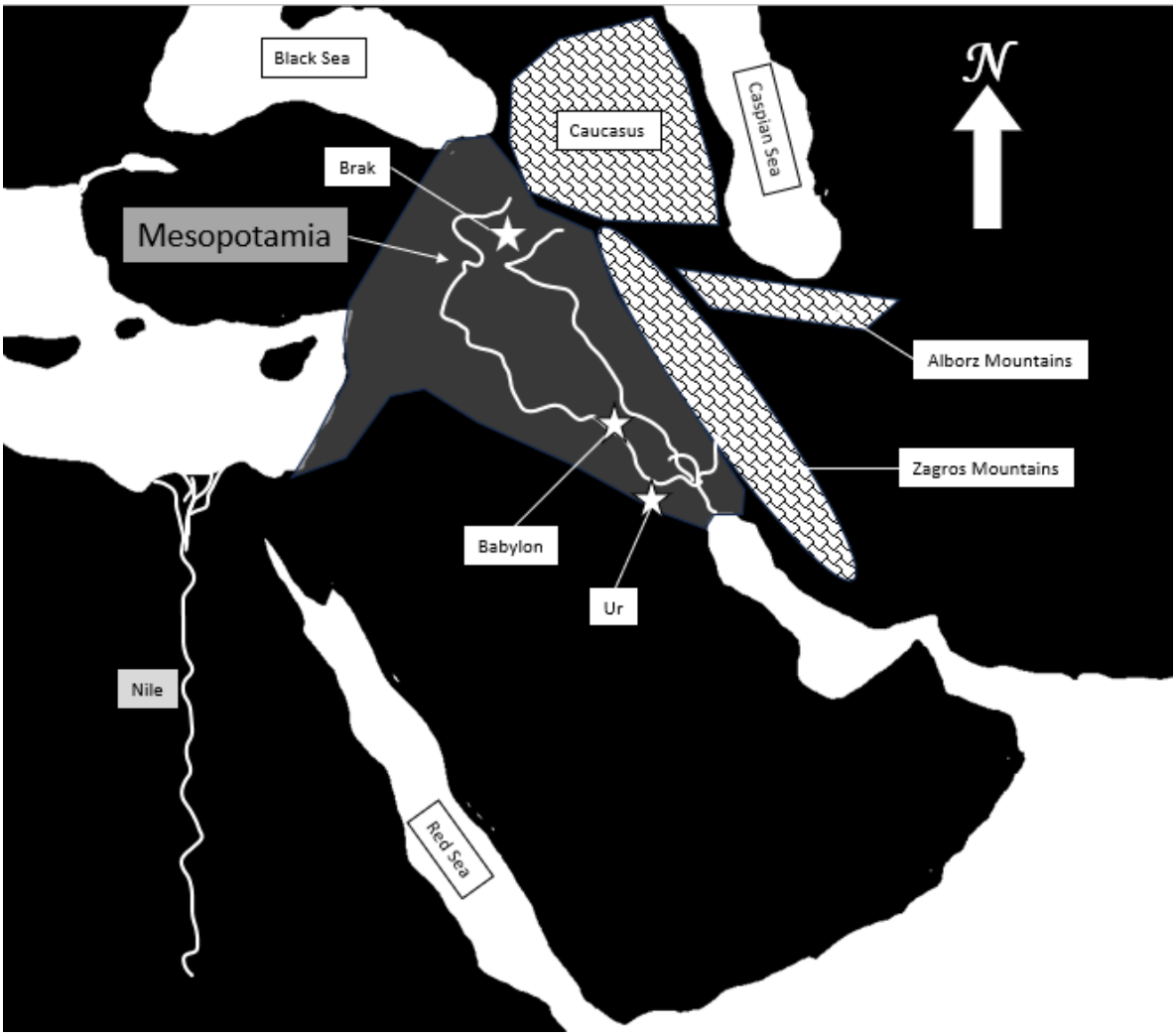
forward and found the Ural Mountain deposits. After discovering the rich veins in the Urals, they split up their efforts. One group went along the mountains, following the minerals. Another group pushed on to Scandinavia. They found a motherload in Mt Kiruna. This was when I believe the Half-Cycle Event happened 18,000 years ago, the Hilina Pauli event. The recovery from the Hilina Pauli event sparked a boom in technology and further expansion. The Titans pushed on and found the deposits in Ireland. The Titans, true to form, still pushed units forward. They searched the Bay of Biscay and the Iberian Peninsula. Still, they pushed on, into the Mediterranean. They certainly set up shop near the Aegean. However, again, true to form, they pushed a unit forward. They went past the shores of the Black Sea and into the Caucasus. Following the mineral veins in the Caucasus leads them into the Zagros Mountains in modern-day Iran.

In the Caucasus, we find copper and magnetite at the Dashkasen deposit, the Gedabey district, and the Filizchay deposit, all three in Azerbaijan. We also find these minerals together in the Bolnisi district in Georgia and in the Alaverdi district in nearby Armenia. In 2008 an unsubstantiated report of giant bones being found in the lower Caucasus, about 68 miles away from the Bolnisi mining district, made international headlines. The alleged find was at a site over a mile high in elevation, in the Borjormi-Kharagauli National Park, in the modern-day nation of Georgia. The Giants were reportedly nearly 10 feet tall. The bones were allegedly tested by renowned paleontologist Abesalom Vekua. Dr. Vekua died soon thereafter, and the whole incident was declared a hoax and dismissed. The region has been victim to hoaxes before, but this story seems to stand out. If the story holds true, then it seems clear that someone doesn't want the Titan story getting out.

As the Titans followed the minerals, they would see the rich veins bifurcate into two different mountain ranges. The Alborz Mountains in modern-day northern Iran overlooks the Caspian Sea. The Alborz do have both copper and magnetite, but it's not as strong as the other fork, the Zagros Mountains. The Zagros Mountains would have become the next Motherload for the Titans. The Bafq mining district in modern-day Iran is the mineral equivalent to Pea-Ridge Missouri or Mt Kiruna in Sweden. It is, in some ways, even richer. The Bafq mining district has native copper, magnetite, hematite, apatite, fluorite, neodymium, monazite, and xenotime. The Bafq mining district isn't a single outcropping; it's a large area with multiple deposits. Within the Bafq district, you'll find the Choghart Deposit, the Esfordi Deposit, and the Jajarm Bauxite Fields. The whole district spans over 90 miles and has 34 aeromagnetic anomalies and multiple mines. It sits about 70 miles southeast of Yazd city.

The Zagros Mountains are Immense in size and scale. The highest peak is Zard in the central Zagros. It stands 14,921 feet above sea level. That's 2.8 miles high. Other peaks include Qash-Mastan, whose summit is 14,465 feet above sea level that's 2.7 Miles high. Mt. Oshtorankuh —

is 13,615 feet, that's a mere 2.5 miles high. The entire mountain range averages between 6,500–11,500 feet above sea level.



The first Titans to reach the Caucasus would have been scouts or a scout-like unit tasked with prospecting. It becomes evident later that it was Cronus who sent them forward. It also becomes evident that they left long before the Gigantomachy. I say this because it appears a second group of giants may have followed them into the region. The first group of giants in the region seem to be forging alliances with locals. They are considered very tall, human-like, semi-divine, hero types, with armor and metal weapons, a knowledge of the forge, and they don't seem prone to cannibalism. These hero-class of Titans are also associated with bullroarers. The bullroarer or Rhombus is often called a "Turndun" by the locals and is still used for shamanic or ceremonial purposes today. The second group of giants in the region are described as more grotesque or disfigured. This second group does fall back on the tradition of absconding with human women

and children for a midnight snack. The second group of giants in the region very much matches the description of the giants that were recruited to fight against Zeus and the Olympians in the Gigantomachy. The “Hero class” of giants is known for fighting the more grotesque giants and defending the local population. They are described in the same way that the early Greeks described their Titan or Olympian heroes.

In the Caucasus, they called the Titans the Nart. This term applies to both classes of giants: the good and the bad. Some notable heroes in the Nart are: The Titan hero named Amirani saves locals from Hydra-like monsters. Rostam was a great Persian hero in the Shahnameh; he is repeatedly described as extraordinarily tall and massive. Rostam wears armor and fights like man, yet is a titan in size. In Zoroastrian cosmology, Gayomard is the first human, or primordial man, he is described as a giant or enormous being from whom humanity descends. He is sometimes called a "primordial giant”, often depicted as majestic. He is eventually killed by an evil spirit named Ahriman. Soslan is a Nart hero that has the strength of Hercules, the cunning of Loki, and the weakness of Achilles. His knees are his vulnerable spot. Batraz is considered by some to be the ultimate avenger of the Nart. He is pure warrior, honorable, serious, driven by oaths, and absolutely devastating in battle. He fights heavenly powers, contends with the gods, and even hurls lightning in some myths. Batraz also has a special sword. The special sword was forged by a special master of the forge.

The North Caucasus Nart sagas feature Kurdalægon or Tlepsh as the ultimate blacksmith-god of the Narts. He's a powerful, central figure—often depicted as the Narts' forge-master who tempers heroes as well as weapons. He stays anchored to the anvil, demanding tribute in the form of mineral materials so he can work his magic in his smithy. Batraz’s sword “gleams like lightning”, and is reportedly capable of cleaving giants or fortresses. Batraz's sword is considered a thunder-god relic in some tellings. Batraz uses the sword to storm the Khizh fortress, home of his father's killers. It slices through stone, metal, and his opponents. It produces lightning-like flashes and never gets dull. I think the weapon sounds more like Heimdall's sword Höfundr, with the flashy and deadly accurate qualities of Odins spear, Gungnir. In some tales it even had the boomerang like capabilities of Thor's hammer, Mjölnir. There is no indication that this was a binary weapons system that required a second item in order to function. There is also nothing that indicates that the weapon utilized the Z-pinch technology that enabled lightning or plasma to be shot forth either. When Batraz believes that his sworn oaths are completed, Batraz reportedly throws the enchanted sword into the Black Sea (like Excalibur in Arthurian legends, returning the famous sword to the Lady of the Lake). And that’s the end of Batraz as he allegedly dies after the sword is discarded. However, the sword never got a special name, that we know of. Special tools deserve special names.

The more grotesque giants, sometimes referred to as the *Div* by the early Zoroastrians, look to be the giants that failed to take Mt Olympus from Zeus. This makes clear that the conflict in Scandinavia took precedence over the conflict in the Mediterranean. The only troops that could be gathered for the doomed counterattack were a more grotesque and ragtag, misfit, mercenary-like collection of troops. When the attack on Olympus failed, they lost discipline and didn't conduct an organized withdrawal; they just broke ranks and scattered. Perhaps Poseidon didn't sink all the ships under the command of Polybotes, that tried to get away across the Aegean. And some of those deserters made it to the Caucuses. Perhaps some of these misfits evaded through Anatolia to the Caucasus on foot, rather than back to Campi Flegri where the final slaughter took place. Either way, they didn't get along with already present scout unit that was prospecting in the area. The result was several generations of conflict.

Archeological evidence in the area shows native copper was being hammered at least 7000 years ago. There is also evidence of smelting 6,000 years ago in the Zagros Mountains. Sites in the South Caucasus show metalworking in highland contexts, and copper from polymetallic ores have been found near fort-like hills. Early Transcaucasian Cultures, known as Kura-Araxes, are known to be found with metallurgy like advanced alloys, tools, ornaments and tools that are sometimes described as "precocious" and export-oriented by modern experts. The bottom line is: the existence of these technologies implies specialist knowledge in the forge, knowledge of mineral procurement and refinement, not to mention years and years of development.

The Kura-Araxes are considered the Proto-Hurrians. The Hurrians are a human culture that came out of the Caucuses Hunter Gatherer (CHG) group. The Hurrians had an advanced metallurgy that was ahead of its time for the period. Their metallurgy was focused on bronze or copper alloys. They used chariots in battle and in raids. They maintained a more elite warrior class called the *Maryannu* and had a set of complex military tactics and organization. The Hittite culture recorded some the lore that Hurrians believed in. The Hurrians believed that their gods were giants that got displaced by a new king or set of gods. The Hurrian gods were themselves refugees from another time and place.

In Hurrian legends, as recorded by the Hittites, their primordial god was *Alalu* who was castrated by *Kumarbi*, who later got overthrown by his own son *Teshub,* whom was known as the storm god. To make matters even more interesting, the new king *Teshub* fights other giants and monsters to defend his kingdom. And if that wasn't parallel enough, *Kumarbi* was known as the father of grain and farming, hence a former "golden age" of prosperity. The Alalu-(Uranus), Kumarbi-(Cronus), Teshub-(Zeus) story is called the Kumarbi cycle. This tells us that the scouting parties of Titan prospectors, that got isolated in the Caucuses and Zagros mountains were soldiers from the Golden Age of Cronus. And the second group of more grotesque giants were the

scattered losers of the Gigantomachy. Both became cut off and isolated by the 12,000-year storm and the solar micro-nova's devastating effects on Earth.

If you look for the evidence of the catastrophic events of 12,000 years ago in Iran, we find a lot of the same telltale signs of the cyclical disaster. A fine layer of micro-spherules has been found in Syria at Abu Hureyra. Evidence of ocean rise and intrusion, usually linked to "meltwater pulse 1A" can be found in the Iranian lowlands. The shores of the Caspian Sea show evidence of sea water rise or sloshing up to about 65 feet. Caspian Sea sedimentary cores reveal a sharp weather change to a cooler and drier climate during the catastrophe. The weather then abruptly changed with a warming period about 10,000 years ago. This warming period was accompanied with a biomass surge. The higher elevations of the Caucasus and the Zagros Mountains felt the pinch of the cold but were spared the worst of the floods, then rebounded quickly.

The Titans in the Zagros Mountains, with their propensity to follow the minerals, were not just benefactors of living on the high ground. They did escape the waters and were on the opposite side of the world from the arc discharge. They were also the unwitting benefactors of a strong micro-magnetosphere. The presence of magnetite, neodymium, monazite, and xenotime created a stronger than usual, local bubble of magnetic biology protection, in the form a naturally produced micro-magnetosphere. This magnetic microsphere is just like what had been provided 12,000 years prior to the Titan residents of Pea Ridge, Missouri. As we stated before, the Neurochemistry can be affected by a hypo-magnetic environment. Memory can fade, cognitive confusion can occur, bad decisions get doubled down on. Basic tasks can become more difficult. Some scientists believe that it may be due to the "radical-pair mechanism". The radical-pair mechanism revolves around the idea that in our cells' chemistry, unpaired electrons can exist in different quantum states, while exposed to weaker magnetic environments. The radical-pairs in cells, like cryptochromes, can be especially sensitive to the magnetic environment. This changing magnetic environment influences the chemical reaction outcomes in certain nervous system components. In essence, the weaker magnetic fields don't push electrons around in a mechanical way, but it influences, or creates biases, in the chemical pathway reactions. Thus, it alters the subject's neurochemistry. This can affect psychology, health, personality, cognitive abilities, memories, circadian rhythms, sleep cycles, and decision making. It's not what you might consider classical magnetism, it's basically: quantum biology.

The Hurrians obviously revered the older Titan culture and carried a few things forward from the forge. But what happened to the Titans themselves, post-cataclysm, isolated, protected by the terrain, and living in the high country? I believe that, when the weather changed 10,000 years ago, to a warmer and wetter, more hospitable climate, the Titans sent scouts down from the mountains and attempted to seed a new "Golden Age" of their very own.

The Titan scouting party that came down from the highlands entered the fertile and sometimes marshy lowlands in modern-day southwest Iran and southern Iraq. The land was inhabited by the Ubaid people. They were a simple, mud hut, thatched roof, tribe of early cultivators. The Scouts were called the Igigi. The Igigi were considered by the locals to be divine, god-like beings of great knowledge and ability. The Igigi went to work improving the farming conditions. They dug trenches, placed canals, and introduced more modern irrigation practices. The Igigi toiled to make the new "Golden Age" a real possibility for up to 3,600 years, according to some legends. Eventually, a senior Titan, the god of water and wisdom, named Enki, comes down from the highlands to check on progress in the lowlands. The leader of the Igigi protests the situation and nearly rebels against Enki and the entire leadership council, headed by the big boss, named Enlil. It becomes, essentially, a labor strike. The Council of elder Titans or gods is called the Anunnaki. The term Anunnaki translates in early Sumerian to "princely offspring", "royal seed" or "Offspring of An" (the sky god). They are the elders, while the Igigi are the younger. The Anunnaki propose a new strategy to alleviate the concerns of the younger Igigi. The solution is to increase the workforce by including the local humans, the Ubaid, in the process. This means introducing them to the technology or techniques that the Igigi are using, to increase production and lighten the load on the Igigi. The Titans, no matter who, have always been prone to hoarding technology and keeping secrets. But, the first secret they always give up, after being painted into a corner, is agriculture. It's a repeating pattern of behavior that goes back thousands of years and in multiple theaters of interaction. When the Igigi push the Anunnaki into a position of compromise, the playbook dictates giving up some agriculture secrets. That's just what they do.

When the Ubaid start learning the secrets of agriculture, they begin to change. The Ubaid culture developed into the Sumerians. The Sumerians developed Mesopotamia. With the gift of enhanced agriculture, the birth of human civilization is given rise in ancient Mesopotamia. The rise of the Sumerians is well known as the foundation of written languages with Cuneiform. They are given credit for inventing mathematics, measurements, geometry, and algebra. The modern cities like Uruk, Ur, Eridu, Lagash, Nippur and Umma among others are due to the rise of the Sumerians. The concepts of kingships and governments are often attributed to the Sumerians. The central leadership of those cities brought forth civil law and legal systems. They are credited with astronomy and calendars. They are given credit for agriculture and irrigation practices. Literature and poetry are also often accredited to them.

The list of their accomplishments is long and distinguished. But if anyone has been paying attention, many of these things have been around for a very long time. These things existed in other places long before the Sumerians learned how to plow a field, a mere 6,000 years ago. The difference is the Anunnaki. The Titans that found magnetic refuge in the Bafq district, kept the memory of technology alive. It was preserved in their memories, while the rest of the world just struggled to survive post-apocalypse. When the Titans did what they always do, and sent out

scouting parties, they came across the fertile lands near the Tigris and Euphrates rivers. The locals are the benefactors from; the work of the younger Igigi scouts and the shared knowledge from the elder Anunnaki.

Regardless of who came up with it first, in the modern era it is Mesopotamia and the Sumerians that are credited with doing it first, for us. While the rest of the world went the global reset and knowledge was lost. It was all the things that the Anunnaki and the Igigi passed down to the Ubaid that really started us modern humans on our trail of advancement. The Ubaid passed it to the Sumerians who shared it with greater Mesopotamia and eventually the great city of Babylon rose up like a phoenix.

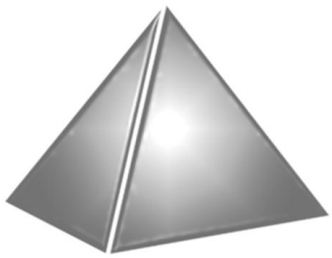
The Babylonians seemed to replace Enlil as the head of the gods with Marduk. As Marduk ascended to the throne, it seems that he was praised with being the creator himself, despite the fact that he was the son of Enlil. Marduk didn't overthrow his father, but instead it seems that Enlil simply retired. Some cross-cultural myth blending has blurred the line between Marduk, sometimes called Bel, and the Canaanite deity Baal. There are some parallels between their stories, but they appear to be two different entities. As Babylon became the new center of power, their version of the giant, divine, creator god rose with them. With Marduk in charge, the gods of old were being forgotten.

The Sumerians were not a thankless culture. The very first story recorded in cuneiform was that of Gilgamesh. The exploits of a giant-hero prince, whose exploits are colorfully documented by the Mesopotamians. Gilgamesh was the son of Lugalbanda and Ninsun, both were considered to be gods and Titans. Gilgamesh himself, possibly, had one son with an unspecified woman. That child was named Ur-Nungal and he served as king after his farther. He, too, only had one child named Udul-Kalama. Udul-Kalama did not have any reported children. It seems as though Haldane's rule has come into play yet again. Just as we've seen before. Despite their divine status, their apparent long lives, and their giant stature, the bloodline dies out, this time with more of a whimper, not a bang.

The Anunnaki have been mystified and exaggerated by modern culture and crazy stories about aliens from outer space. The original legends do talk about the Anunnaki seeding the earth with humanity, and some seem to take that quite literally, but the archeological record more than disputes the proposed Sumerian timeline of man. There is no indication that the Anunnaki came from anywhere higher than the loft peaks of the Zagros Mountains. Furthermore, despite the advanced technology that the Titans have shown at the forge, there is no indications that they knew anything about bio-engineering or genetic sciences, although it appears they are victims of it.

Other survivors are scattered though out history. The possible survival of Athena or Net, may be told in the story of Neith. In Egypt; the Nun or primordial waters of creation receded, and a single mound stood out. The Egyptians named the mound Benben. Special tools get special names. The capstone on the top of Egyptian pyramids is now called a Benbenet. Sometimes an obelisk is called a benbenet as well. In the legends, it was from the Nun that Neith first appeared. She soon thereafter gave birth to Ra, the sun god. The sun god Ra was said to rise every morning from the benben, just as he did at the beginning of time. This places Neith coming out of the floodwaters near, or at, the Benben mound.

Interestingly the Titans are known to be mound builders. In North America the ancestral homeland to the Titans, the giant skeletons that have reportedly been found, are usually found in mounds. The Native cultures in North America report that the giant Alligewi built mounds all over the place, from modern-day Ohio, Indiana, Illinois, Kentucky, Tennessee, Virginia, and along the Mississippi River Valley. In fact, they are most likely responsible for the Snake Mound Effigy found in Ohio. The Cherokee tribe tells stories about the "Moon Eyed People" that built large structures in the Appalachian Mountains of North Carolina, Georgia and Alabama. The Choctaw spoke of the Nahullo who built mounds in Tennessee, Mississippi, and Alabama. The Chickasaw and Creek tribes have similar traditions of white-skinned giants that built mounds in the region, specifically the Nanih Waiya mound site in Mississippi. So, for a Titan to have emerged from a flood at a Mound near the Nile, fits the known history of the Titans.



It seems that Ra was a full-blooded Titan, as he was known to be somewhat prodigious in producing heirs that became gods themselves. And those heirs went on to have children, who also became gods. Again, the more modern a society becomes, the more metaphorical its legends become. For example, Ra's first two children, Shu and Tefnut, go on to literally become the sky and the earth.

We can see in the artwork, wall carvings, and hieroglyphs that the early Egyptian gods and perhaps the earliest of pharaohs were definitely giants in stature. It seems that the North American Titan tradition of building mounds eventually morphed into the building of great pyramids, designed to survive the floods. The Egyptian culture is one of cyclical floods. Pyramids are mounds, specifically designed to preserve something beyond the next Nun.

Other survivors are noted in texts like the Bible, the Old Testament; books Samuel, Numbers, Deuteronomy, Chronicles, and Joshua. Additional non-conical books like the Jewish Midrash, Talmudic legends, The Muslim Quran, and the Book of Enoch, which was found in the Dead Sea Scrolls. The Quran called the Titans the *Ad*. They were the descendants of a people that came from the high mountains called "the People of Thamud". The Old Testament talks about King Og, an Amorite King, who ruled over 60 cities in Bashan, which is modern-day eastern Jordan. His armies fight against Moses's armies. King Og was reportedly about 13 feet tall.

The primary giant that everyone remembers is Goliath, from Gath. But there were others noted in the biblical texts. Goliath had brothers: Ishbi-Benob, Saph, Lahmi, and another unnamed brother who was noted for having 6 fingers on each hand and 6 toes on each foot, totaling 24 digits. They were part of a larger group known as the *Rephaim*. Rephaim translates from Hebrew to "shades" or "giants". These giants were warriors for the Philistines and hailed from the city of Gath. In some versions of the legend the Rephaim are tied to the Nephilim. The Nephilim are considered "Giants of the Earth" and are supposed to be the half-breed offspring of angels and human women. Some have claimed that the angels in question are simply giants. While a more conventional theory is that; the angels that were "cast out of heaven" were the ones that copulated with human women, and the resulting offspring were giants. The resulting giant offspring would then abuse their power, take advantage of their size, and occasionally fall back on the old habit of cannibalism. Once again, the mixing of giants and humans, sexually, ends up being the demise of the giants.

After David slew Goliath, he set up a posse, and they went out and purposely exterminated all the Rephaim. It was a systematic clean-up operation, portrayed as a divine mandate to cleanse the Earth of the ancient foes.

David's posse of giant hunters certainly cleansed the immediate area of the Rephaim, but they didn't venture too far outside of their immediate area of operations. Other Giants are found all over the world. In Africa, outside of the Mediterranean shorelines, remnants of giant legends exist in:" Ethiopia with the *Harlaa*, the Gongo with the *Mbombo*, Central Africa with *Makoma's Giants,* and Botswana with the *Matsieng Giants*. The Armenians had the *Hayk*. The Philippines

had the *Kapre* and the *Bungisgis*. The Hindus had the *Rakshasas, Rishabhanatha, Asuras, Danavas,* and the *Nabhi*. The Hindus also had several individually named giant figures like; *Daityas, Namuchi, Purusha,* and *Vritra*. The English had the *Cogmagog*. The Welsh had King *Bran the blessed*. The Germans had the *Rubezahl*. The Bulgarians had the *Ispolin*. The Aztecs had the *Quinametzin*. The Mayans, before the Aztecs, had the *Zipacna*. The Australians had giant figures like *Alinga* and *Barnumbirr* in their legends. The Patagonia region had the *Patagons*. Columbia had the *Muisca* or *Chibcha*. Bolivia and Peru shared the *Gentiles*. The ancient Inca had the *Ayaymama*.

Of course, the Tibetians had the *Yeti*. The Maori in New Zealand have the *Maero*. The basque have the *Ojancanu*. North America has Bigfoot, or the *Sasquatch*. These giant figures represent a different species of tall, hairy, human-like wild men. I think these are more akin to the Denisovan people that have been found and documented in Denisova, Russia. They are not Titans. They appear to be a different species altogether. Not all giants are equal.

This brings us back to where it all started in North America. The more recent stories about the Titans that come from the Native Americans, are stories about the survivors of the storm. They are the scattered remnants of the once great Titan society. The Kiowa, the Osage, the Shawnee, and the Quapaw, along with all the other tribes, are telling us stories about what was left of the Titans. The Titans themselves left behind clues to their existence, The burial mounds, The Effigies, and the ceremonial mounds. The Titans were a mound-building culture; they left behind mounds. The Titans were a copper working culture; they left behind copper artifacts. Some native copper workings have been found in Wisconsin. These knives, spearheads, and tools have been dated to at least 8,500 thousand of years ago. The bullroarers have been found in an unironic attempt to communicate with us. Most of their culture and its workings, and its structures were knocked out, looted, flattened, and buried. The American Titans have been all but erased by either: time, natural disasters, or by our own workings. Only scattered traces of the Titans remain. To find the Titans you have to hunt for the shadows of what once was.

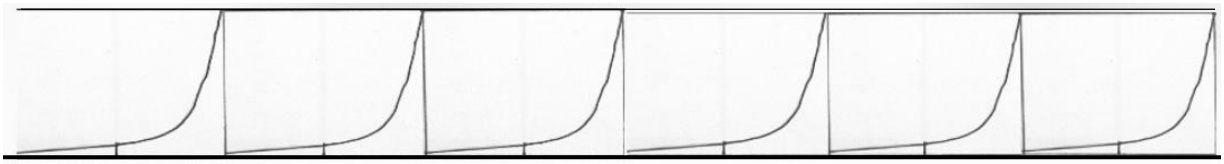
Symphony of Destruction

The Titans didn't just have their 15 minutes of fame. They had a 12,000-year rise, followed by a 6,000-year fall. They followed the Gompertz Curve of progression with a 6,000-year slow advance, then after the Halina Pauli event of 18,000 years ago, they climbed radically into what was, essentially, god-like status across multiple cultures. After the Gothenburg/Younger Dryas event of 12,000 years ago the small remaining pockets of Titans started to decay.

They didn't go out without leaving their mark. The Mesopotamian culture that we consider the first civilization, was made possible only by the influence of the Titans. The legends and mythologies that are left behind are echoes of what once was for the Titans.

Technological evolution is often charted with a Gompertz curve. The curve starts out slowly, then, over time, radically accelerates upwards to a zenith. It seems that upwards curve begins at the half-cycle event. After the half-cycle event, the dominant species apparently wakes up and begins its 6,000-year ascent up the Gompertz curve. Humans have done exactly that with our Bronze Age kicking off in high gear after the Noah (Tianchi) event of 6,000 years ago.

This sequence of events is like a repeating pattern of a Gompertz curve rising, like a phoenix, out of the ashes and swamps of a half-cycle event. After coming to a zenith 6,000 years later, it is smacked back down by another solar micro-nova event. Like a global reset, repeating itself, the continuous rise and fall of civilizations creates a saw-tooth pattern of repeating curves.



Saw-Tooth Gompertz

For a species that can record history and remember what has happened in the past, this is an educational opportunity. Like *common core*, lessons are repetitive. Each successive lesson builds off of the last one, the new material being learned is simply an addition to the material previously learned. In the military, this often called the "lessons learned" segment, and it only happens when you conduct an honest After-Action-Review (AAR).

The previous cycle's curve started with a rudimentary Titan "Copper Age". A large, and still primitive people, collecting shiny copper and magnetic rocks while following coastal migration patterns in crude boats, for 6000 years. After the half-cycle event, the Titans began to advance rapidly. They enter what I'll call the Titan "Magnet Age". Their advancements included improved boat construction, successful maritime navigation, celestial understanding, agriculture, and animal husbandry. They may have experimented with vitrification. They moved beyond basic

mineral combinations at the forge and incorporated more advanced materials to begin advanced metallurgy. They even pioneered the field of plasma physics and Z-pinch technology in order to create a form of plasma projection. They created binary weapon systems. They even managed to bend light with a magnet powerful enough to manipulate the environment around it. This cycle showed formal military organization, military intelligence, formal communications, meritocracies, herbal knowledge, medicine, and brewing.

One thing that mankind seems to always have that the Titans don't is religion. The reverence for older generations, older powers, and creation stories seem to dominate the cultures of man worldwide and throughout time. Nothing in the Titan stories from Missouri to Alaska, from Beringia to Hokkaido, from Siberia to the Mediterranean ever discuss Titan reverence towards anything, other than themselves and their art of the forge. Clearly, they had parents. And repeatedly they usurped their parents.

Were the original Titans treated badly by their own elders? Did they disregard their past like abused children, who are constantly doomed to repeat the bad behavior of their elders? Are the Titans the sons and daughters of abusive parents? Is that why they ran away from home? Did the older Titans have their own pagan gods, which they then purposely ignored? Did the Titans kill their gods? It doesn't seem to be the Titan way to hold anything in the past, in high regard. The entire cultural focus seems to be on moving forward.

Is that attitude unlike our current state of affairs? It has become fairly evident that the more scientifically focused or technologically advanced a society becomes, the focus is less and less about God or spirituality and more about our own accomplishments or technology. Some may even suggest that the more technologically advanced a society grows, "hubris" begins to show towards any potential higher power. A god-complex or *heart of darkness* has been creeping into the heart of man. Just as it may have crept into the hearts of the Titans.

For those of you who may be searching for Atlantis, may I suggest looking at the Horseshoe islands. Although I don't know what people searching for Atlantis are expecting to find. It's not Eldorado. It's not a city of gold, rich with treasures. It was a forward operations base that served as a logistics hub for a foreign invading force. Its richness wasn't even in copper and lodestone. The real value of Atlantis was in its strategic location. You may find some megalithic structures strewn about like an ancient debris field. You most likely won't find pyramids, as they hadn't started building formal pyramids yet. The architectural advancement of Egyptian like pyramids, hadn't begun until after the 12,000-year storm had hit, Atlantis sank beneath the waves, and the Benben rose out of the Nun near the Nile. You may find barnacle-encrusted relics from a long-forgotten age buried under layers of seafloor silt and debris. You may find ancient boat anchors and signs of metallurgy that predate the Bronze Age. But it won't be a treasure-filled city of wonderment and gold.

I don't mean to pick on the searchers for Atlantis. I started this literary adventure by reading about the origins of the Atlantis story. I saw parallels with what the Egyptian priests recounted to Solon, mixed with the writings of Plato about Atlantis, and my very rudimentary knowledge of Greek mythology. I simply wanted to look into the similarities between those stories from an Euhemeristic point of view. I had no intention of writing a *book* about it. It then dawned on me that the Native American stories about cannibalism and "stone-skinned giants" and the legends about Lovelock Cave may have something to do with it. When I added the exposed native copper mining from the Paleolithic era found in Wisconsin to the mix, a clearer picture started to evolve. The ancient Egyptian and Greek stories started in America.

I added my understanding of the Earth Disaster Cycle (EDC) to the equation, and the whole story started to unfold is such a way that I couldn't ignore it. The evidence started to reveal itself, and kept revealing itself. It was like the thread on a sweater that got pulled, and it just kept on coming. Before long, it seemed like the whole story wanted to be exposed. It felt almost dutiful to chronicle the entire episode, and put it down on paper.

The Egyptian priests told Solon that the entire Mediterranean had been saved by a Greek hero. And despite Solon's current understanding of the ancient greatness of Egypt, the Greek civilization had outdated the Egyptians by thousands of years. They recounted to Solon that a great flood had wiped out the earlier civilization on Greece and that the survivors didn't rebuild (or *leave their mark on history*) for many generations. It was in this period that Egypt leapfrogged the Greek civilization and therefore now appeared to be older. When, in fact, it wasn't. The priests also told Solon about the city of Atlantis and how it had sunk under the waves in a single day and night. The city of Atlantis was the home to "sea raiders" that had dominated the Mediterranean. It was, again, a flood that essentially destroyed these sea raiders and the city of Atlantis. Leave it to Egyptians to make everything about a flood.

This story was told to Solon after he left Greece for a period of ten years. Prior to this history lesson, Solon was the equivalent of the most popular social media star, in all of Greece. Solon had gained his massive popularity by posting his editorials on current affairs in the public square in the form of poetry. Solon's commentary was applauded by both commoners and elites alike. The current government was experiencing a large amount of civil unrest and faced a popular uprising. In an attempt to settle the conflict and placate the people, the ruling elites recruited Solon to help resolve the unrest. Solon accepted the challenge. First, Solon made some concessions to appease the public, and then he wrote a new set of laws that would change the way the government was run. These reforms were the earliest form of democracy ever recorded. The new laws dictated that the 4 local tribes would choose from amongst themselves a hundred representatives, to occasionally appear before the elites, and serve the interests of their respective areas of responsibility. This was called the Council of 400. Thus, giving a voice to the

common people in the halls of power. Solon's reforms were essentially the birth of democracy. After writing these reforms and having them codified into law, Solon took off for a ten-year sabbatical to Egypt. Not everyone was happy with the reforms. Solon was taking some heat. Since Solon didn't want anyone to think that he was writing his own power into existence, he figured that a long absence would prove that he wasn't doing this for himself. He basically wrote democracy, then split for ten years.

After Solon had studied in Egypt, he wrote down much of what he learned. About 100 years later King Leonidas and his brave 300 Spartans defended Greece, and liberty itself, from Xerxes' armies coming out of Persia, from near the area formerly known as Mesopotamia. 105 years later, Plato (a distant cousin to Solon) wrote the Republic as a way to improve upon Solon's work and to further refine the Greek government. Plato, of course, read the works of his late cousin, Solon, and built upon them. In Plato's study of Solon's writings, he read about the story of Atlantis. Plato set about to use the story of Atlantis as a metaphorical example of what a more perfect society would look like. Plato used his own form of literary license to modify, the otherwise unknown, story of Atlantis to serve as an example of what a perfect society would look like. It was intended to be a tool that he could use to help garner public favor for his reform ideas. The story was modified, and new details were added to make this ancient story fit the new narrative that Plato was trying to impress upon the people. I think that Plato took a story about an important ring of islands and made it into a story about an important island in the shape of a ring, or perfectly concentric rings. Plato was using Atlantis as a model for his concepts of the ideal society, a new Republic.

In the strangest mix of congruity and irony, it turns out that the story of Atlantis was the story of the American Titans. The Atlantis story was written by the men that literally created Democracy and the concept of a Republic. It was preserved and only made possible by the brave defense of Liberty by Leonidas. Now, the Titans' ancestral home, America, is the "Land of Liberty" that uses the principles of Democracy in its Constitutional Republic. The entire episode of time, from Solon's reforms, to Leonidas, to Plato's death, is nearly 250 years. At the time of this writing, America is approaching its 250th anniversary.

Speaking of time, for those of you paying attention, it's been about 6,000 years since the Noah event. The Aurora Borealis are starting to show themselves at more southern latitudes. The magnetic poles are on the move. Socially, there is a separation of people and ideologies becoming evident in today's clown world. Some people are becoming more reverent or spiritual in nature. Some people are doubling down on bad decisions. The effects of a hypo-magnetic environment are starting to reveal themselves.

Ragnarök is coming, again. The solar symphony of destruction is cyclical, and it's on its approaching path. The key to our continued survival as a dominant species on this planet is first,

to remember. Next is to prepare. We need to not just take steps to ensure our personal survival of the oncoming storm, but we also need to look forward to what we do after the storm. Our electro-dependent technology won't survive the micro-nova. The future of human technology may not be based on fossil fuels. (The very term, fossil fuel is a misnomer). Our petroleum-based economy won't work after all the machinery shuts down, gets buried, or gets destroyed. Perhaps more of Nikola Tesla's concepts could come to the forefront.

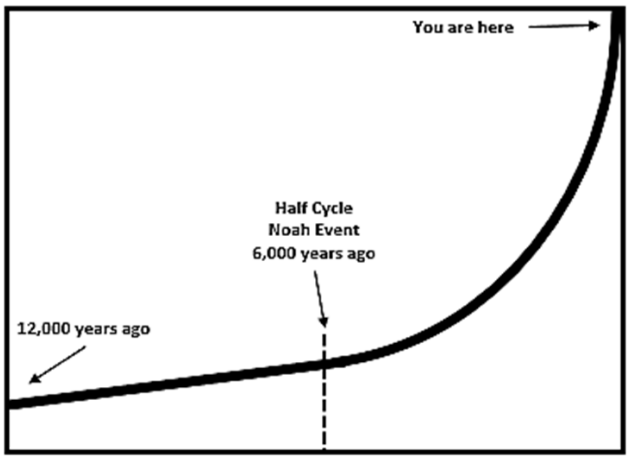
Currently, the race for rare earth elements is in full swing. International deals are being brokered for elements like neodymium. After the next storm, we have an opportunity to re-ignite a new industrial revolution. Imagine if we could do the industrial revolution all over again, this time, with the gift of hindsight. What would we do differently? I'd like to call it the *industrial revolution 2.0*. Could we start the rapid ascension up the Gompertz curve of advancement much earlier? Would the use of magnets and plasma-based technologies be the best way forward? The technology of the future may be more aligned with what the ancient American Titans had come up with. The future of technology may lay in the secrets of the past.

I don't know what's going to work in the future. I do know that we have an opportunity to do everything a different way, next time. The solar symphony of destruction can be turned into the orchestra of origination. Like a Benben rising from the Nun

The end of one age on Earth is the start of another age. It's not the end of humanity. Humans have survived this storm hundreds of times and for millions of years. Each and every one of us is descended from survivors of all the previous solar cyclical storms. We've just never had to do it from a position of absolute dominance before. Shouldn't that put us in a position of advantage? Like a cycle that keeps repeating, each epoch has its own twists, but the story remains the same. If we want to change that story and change the future, we must be honest about our past.

The trick is first, to remember. Then, to prepare.

Good luck.



Afterword

I initially intended to market this text as historical fiction. But I really didn't invent this story. I discovered it. That being said; I've certainly taken the liberty to make some bold assumptions. But **everything I've written is based on evidence**. The evidence may be anecdotal or circumstantial. I could be accused of "cherry picking" my evidence, and that's true, I most certainly did. In some instances, I've reframed events in the past with a more military perspective.

In regards to technology, I've considered what we know peoples of the Paleolithic period had, i.e., fire, stone, and sound, and used it as a base for what they could have done with it. The technology is plausible and is backed by real math. How that applies to the real world and practical application or applied sciences, I don't know. I haven't tried to replicate any of it.

I think my largest creative leap is with the punishment of Atlas. There isn't any evidence for exactly how he died. The details of that passing are lost to history. However, there is a historical precedent for the crucifixion of enemies and traitors. Sometimes it was on "T" frame, and sometimes it was on and "X" frame. Given that the mythology has him on top of the Rock of Gibraltar, with his arms up, holding up the sky or the world, forever, I chose an "X".

If you, the reader, were not yet aware of the Earth Disaster Cycle, I apologize for being the bearer of bad news. It's real, and it's coming. There's no point in keeping that a secret. It did, however, provide a unique window of opportunity for the coastal migration patterns of the Titans. They would not have been able to transit the Arctic Ocean coastline if it had not happened.

I invite comments, collaborations, and constructive criticism. I'm open to input from others. Don't bother with hate mail, I won't respond.

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FURTHER READING

Earth Disaster Cycle material;

THE NEXT END OF THE WORLD; by Ben Davidson
THE SUN, THE EARTH AND THE DISASTER CYCLE; by Ben Davidson
EARTH DISASTER CYCLE: THE CYCLE RESETS SOON; by Ben Davidson
WEATHERMAN'S GUIDE TO THE SUN; by Ben Davidson

Plasma Cosmology and Electric Universe;

THUNDERBOLTS OF THE GODS; by David Talbott & Wallace Thornhill
THE ELECTRIC UNIVERSE; by David Talbott & Wallace Thornhill

Speculative & Investigative History;

THE LOST ART OF FINDING OUR WAY; by John Edward Huth
AMERICA BEFORE, THE KEY TO EARTHS LOST CIVILIZATION; by Graham Hancock
FINGERPRINTS OF THE GODS; by Graham Hancock
MAGICIANS OF THE GODS; by Graham Hancock
UNDERWORLD; THE MYSTERIOUS ORIGINS OF CIVILIZATION; by Graham Hancock
THE MESSAGE OF THE SPHINX; by Graham Hancock & Robert Buval
HEAVEN'S MIRROR; by Graham Hancock & Santha Faila
GIANTS ON RECORD; by Jim Vieira & Hugh Newman
THE CASE OF THE TURQUOISE SUN; by Ev Cochrane
IN THE NORTHERN MISTS; by Fridtjof Nansen
PEOPLES OF THE SEA; by Immanuel Velikovsky
OEDIPUS AND AKHNATON, myth and history; by Immanuel Velikovsky
AGES IN CHAOS; by Immanuel Velikovsky

Historical Reference;

DINE BAHANE, THE NAVAJO CREATION STORY; by Paul G. Zolbrod
NAVAHO FOLK TALES; by Franc Johnson Newcomb
ATLANTIS FROM NEITH AND SOLON FOR PLATO AND FROST; by Daniel Buckley
THE TITANOMACHY: THE WAR OF THE TITANS; by Skye Hellviolet
THEOGONY / *WORKS AND DAYS* / *THE SHIELD OF HERCULES*; by Hesiod
THE HISTORIES; by Herodotus (*A New Translation* by Tom Holland)
NORSE MYTHOLOGY; by Neil Gaiman
PROSE EDDA; by Snorri Sturluson
AMERICAN SERENGETI, THE LAST BIG ANIMALS OF THE GREAT PLAINS; by Dan Flores
GIANT SLOTHS AND SABERTOOTH CATS; by Donald K. Grayson

Worth noting: *THE REPUBLIC*; by Plato/ *LAWS*; by Solon/ *THE POETIC EDDA* & the *HOLY BIBLE*